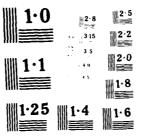
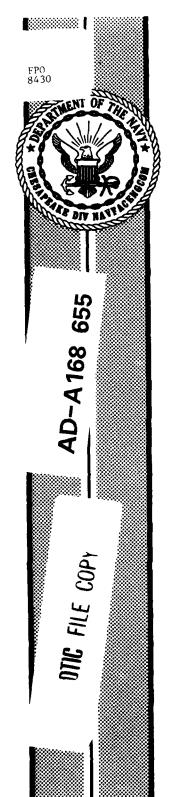
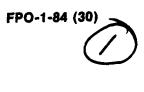
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# SAN DIEGO FLEET MOORING UNDERWATER INSPECTION REPORT

SEPTEMBER 1984

OCEAN ENGINEERING
AND CONSTRUCTION PROJECT OFFICE
CHESAPEAKE DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON, DC 20374



86 6 12 107

## ABSTRACT

This report contains the results of the inspection of 24 fleet moorings located within the Naval Station San Diego, California, harbor complex. A CHESNAVFAC-ENGCOM-assigned Engineer-in-Charge and divers from Underwater Construction Team Two conducted the inspection from 23 to 28 July 1984.

Of the 24 moorings inspected, 14 were found to be in good condition, 7 in fair condition, and 3 unsatisfactory for fleet use. A summary of these results is contained in Annex A.

Of the seven moorings in fair condition, four are recommended for downgrading to the next lower mooring classification. The remaining three have oversized chain and are, therefore, still in satisfactory condition for continued use in their current capacity. Five moorings required reclassification to their proper design class.

Detailed information and specific comments concerning each of these moorings are included within this report.

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1168655 Unclassified SECURITY CLASSIFICATION OF THIS PAGE REPORT DOCUMENTATION PAGE 1b. RESTRICTIVE MARKINGS 1a. REPORT SECURITY CLASSIFICATION Unclassified 3. DISTRIBUTION AVAILABILITY OF REP. 2a. SECURITY CLASSIFICATION AUTHORITY Approved for public release; distribution is unlimited 2b. DECLASSIFICATION/DOWNGRADING SCHEDULE 4. PERFORMING ORGANIZATION REPORT NUMBER 5. MONITORING ORGANIZATION REPORT # FPO-1-84(30) 7a. NAME OF MONITORING ORGANIZATION 6a NAME OF PERFORM. ORG. 6b. OFFICE SYM Ocean Engineering & Construction Project Office CHESNAVFACENGCOM 7b. ADDRESS (City, State, and Zip ) 6c. ADDRESS (City, State, and Zip Code) BLDG. 212, Washington Navy Yard Washington, D.C. 20374-2121 8a. NAME OF FUNDING ORG. 8b. OFFICE SYM 9. PROCUREMENT INSTRUMENT INDENT # 10. SOURCE OF FUNDING NUMBERS 8c. ADDRESS (City, State & Zip) TASK PROGRAM PROJECT WORK UNIT ELEMENT # ACCESS # 11. TITLE (Including Security Classification) San Diego Fleet Mooring Underwater Inspection Report 12. PERSONAL AUTHOR(S) 13b. TIME COVERED 13a. TYPE OF REPORT 14. DATE OF REP. (YYMMDD) 15. PAGES FROM TO 84-09 16. SUPPLEMENTARY NOTATION 18. SUBJECT TERMS (Continue on reverse if nec.) 17. COSATI CODES Fleet moorings, Underwater inspection, FIELD GROUP SUB-GROUP Mooring inspection, Naval Station San Diego San Diego, CA 19. ABSTRACT (Continue on reverse if necessary & identify by block number) This report contains the results of the inspection of 24 fleet moorings located within the Naval Station San Diego, California, harbor complex. CHESNAVFACENGCOM assigned Engineer-in-Charge & divers from Underwater Construction Team Two conducted the inspection from 23 to 28 July 1984. (Con't) 20. DISTRIBUTION/AVAILABILITY OF ABSTRACT 21. ABSTRACT SECURITY CLASSIFICATION SAME AS RPT. 22c. OFFICE SYMBOL 22a. NAME OF RESPONSIBLE INDIVIDUAL 22b. TELEPHONE Jacqueline B. Riley DD FORM 1473, 84MAR 202-433-3881 SECURITY CLASSIFICATION OF THIS PAGE

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#### UNDERWATER INSPECTION REPORT

## 1.0 INTRODUCTION

- 1.1 <u>Background</u>. Under the COMNAVFACENGCOM Fleet Mooring Maintenance (FMM) Program, CHESNAVFACENGCOM has been assigned the responsibility to plan and conduct periodic diver inspections of all fleet moorings worldwide. In carrying out this responsibility, CHESNAVFACENGCOM designated an Engineer-In-Charge (EIC) to provide inspection planning and onsite technical direction for the underwater inspection of fleet moorings at PWC San Diego. The actual underwater portion of the inspection was performed by divers of Underwater Construction Team Two (UCT TWO). The positions of the 24 fleet moorings inspected at PWC San Diego are shown in Figures 1 and B-1. The inspection was conducted from 23 to 28 July 1984.
- 1.2 <u>General Description of Moorings</u>. The following classes of fleet moorings were inspected at PWC San Diego:

CLASS	NUMBER
ВВ	6
В	4
С	2
$\mathcal{O}$	6
Е	2
G	1
Mediterranean	2
Not Reported	_1_
Total	24

Nine of the above moorings, located in relatively shallow water near the deperming pier, and consist of one to three legs attached to stake piles and/or stockless anchors. The remaining moorings are located near the Naval Station, NAS North Island, and near Harbor Island. All of the moorings are either riser- or telephone-type moorings except for two Mediterranean moorings.



1. USS McKEE 2. USS ELK RIVER

FIGURE 1. GEOGRAPHICAL POSITION OF MOORINGS



FIGURE 1. GEOGRAPHICAL POSITION OF MOORINGS

Figures 2 and 3 depict typical riser- and telephone-type moorings, respectively. Figure 4 depicts a typical Mediterranean-type mooring.

#### 2.0 INSPECTION PROCEDURES

- 2.1 <u>Inspection Objectives</u>. The purpose of the mooring inspections was to determine the general condition of the buoys and chain assemblies, and, when possible, to verify or update existing as-built and maintenance records. Divers inspected only a portion of the submerged buoy hull and chain assemblies in order to compile a general description of the mooring's condition. The existence of fairly consistent measurements during this inspection provides a good indication of the mooring's overall condition. It should be kept in mind that periodic underwater inspections are intended as an expedient and relatively inexpensive supplement to accurate maintenance records.
- 2.1.1 <u>Chain Wire Diameter Measurements</u>. Chain wire diameter measurements are used to evaluate the condition of a mooring. A selective sampling of the wire diameter of chain links and connecting hardware was taken in order to determine the amount of deterioration due to corrosion and wear. At each sampling area, the chain was cleaned to bare metal. Single-link measurements were taken where the chain was slack to detect corrosion loss. Double-link measurements were taken where two links connected under tension to detect the combined effects of corrosion and wear. Chain links and other components which measured 90 percent or greater of original wire diameter are considered to be in "good" condition; measurement between 80 and 90 percent of original diameter is considered "fair" condition and is cause for the mooring to be downgraded in classification; any measurement less than 80 percent is considered "poor" and is cause for the mooring to be declared unsatisfactory for fleet use.
- 2.1.2 <u>Inspection Limits</u>. Standard underwater inspection procedures do not call for the inspection of any part of the mooring which has been buried or which is below a water depth of 130 feet if scuba gear is used. Anchor chain and riser subassemblies were observed only to the point at which they became buried; no attempt was made to locate and inspect anchors or other mooring materials which were not readily visible.

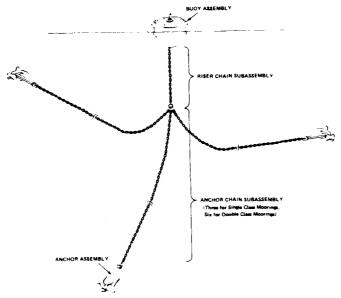


FIGURE 2. TYPICAL RISER-TYPE MOORING

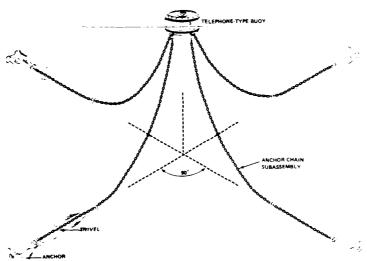


FIGURE 3. NON-RISER-TYPE MOORING (Note: May Have 3 to 8 Legs)

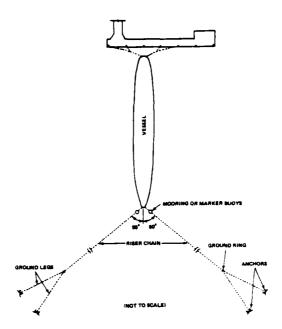


FIGURE 4. TYPICAL MEDITERRANEAN MOORING

# 2.2 Buoy.

2.2.1 <u>Buoy Topside</u>. Each buoy was inspected to determine its general condition. The buoy markings were checked for conformance to those noted in applicable charts. Physical damage, such as holes, dents, or listing, was described. Hatches openings, and penetrations were examined and worn material and rust were reported. The buoy fenders and chafing strips were checked for integrity and secure connection to the buoy. Buoy top jewelry was measured with calipers to find the overall outside dimensions and areas of most severe reduction in wire size.

- 2.2.2 <u>Buoy Lower Portion</u>. Divers inspected the buoy below the waterline and recorded the thickness of marine growth and the condition of the buoy bottom.
- 2.3 <u>Riser Subassembly</u>. To determine chain wear, each riser chain was inspected by taking three consecutive double-link measurements, using pre-cut gauges and/or calipers, at both ends and at the center of the riser. To determine original chain size, divers took single-link measurements of the wire diameter and measured the link length (link length should be six times the wire diameter).
- 2.4 <u>Anchor Chain Subassemblies</u>. Using pre-cut gauges and calipers, UCT TWO divers took sample measurements of the anchor chain subassemblies.

#### 3.0 INSPECTION SUMMARY

An in-depth duscussion of the inspection results is contained in Annex A. Annex B contains buoy survey data and Annex C a copy of the preliminary report of the inspection results. A detailed evaluation of the information and data gathered during the inspection revealed the following:

- o Of the 24 moorings inspected, 14 were found to be in good condition, 7 in fair condition, and 3 unsatisfactory for fleet use. A summary of these results is contained in Table 1.
- o The three moorings in unsatisfactory condition are CM-1, DM-5, and T-1. CM-1 has one anchor that is not set in the bottom and its buoy is in poor condition and in need of overhaul. Anchor chain subassembly C of mooring DM-5 is worn to less than 80 percent of its original wire diameter. T-1 has an anchor on the bottom surface.
- o Mooring DM-3 has a detachable link worn to less than 80 percent and should be downgraded to a Class E mooring.
- o Although mooring DM-G is generally in good condition, the cause of its buoy listing about 30 degrees should be determined and corrected as soon as possible.

- o Anchor chain subassemblies of both moorings FM-48 and FM-49 are worn between 80 and 90 percent. These moorings should be downgraded to Class C moorings.
- o Due to riser and anchor chain subassembly wear, mooring P-1 should be downgraded to a Class D mooring.
- o The riser chain subassembly is worn between 80 and 90 percent in mooring T-2. However, due to oversized chain, this mooring is in satisfactory condition for use as a Class E mooring.
- o Moorings DM-6, DM-8, DM-9, FM-19, and FM-21 should be reclassified to Class A moorings because of chain size. In addition, moorings DM-8 and FM-21 should be further downgraded to Class B moorings because of riser or anchor chain subassemblies being worn to between 80 and 90 percent.
- o Only six of the moorings (FM-19,- 48, -49, -50 and -51; and K) were observed to have some form of cathodic protection.

TABLE 1. SAN DIEGO FLEET MOORING STATUS

	-			
	cu	RRENT CON	DITION	
			POOR	
MOORING		İ	(Unsatis-	ł
NUMBER	GOOD	FAIR	factory for	COMMENTS
		ļ	fleet use)	
CM-1			x	Anchor not set in bottom. Buoy should
				be overhauled.
DM-3		х		Worn detachable link. Downgrade to a Class E mooring.
DM-4	X			Good condition. Chain measurements greater than 90 percent.
DM-5			х	Leg C detach worn to less than 80 per- cent.
DM-6	X			Good condition. Chain measurements greater than 90 percent. Should be reclassified to a Class A mooring.
DM-8		X		Riser worn to between 80 and 90 percent. Severe crack in padeye. Top jewelry poor. Reclassify to Class A and downgrade to a Class B mooring.
DM-9	X			Good condition. Polyurethane coating on buoy. Reclassify to a Class A mooring.

TABLE 1. SAN DIEGO FLEET MOORING STATUS - Continued

	CIII	RRENT CON	nition	
,		KREINT COIN	POOR	
MOOR I NG			(Unsatis-	
NUMBER	GOOD	FAIR	factory for	COMMENTS
None (	3005	1 // 1	fleet use)	33.11(2.11)
			1.000 0007	
DM-11	X			Good condition for Class D mooring.
DM-G	X			Buoy listing 30 degrees. Chain meas-
	.,			urements greater than 90 percent.
				, , , , , , , , , , , , , , , , , , , ,
FM-19	X			Good condition. Buoy needs to be re-
				furbished. Chain measures greater
				than 90 percent. Reclassify as a
j			i	Class A mooring.
FM-20	χ		1	Buoy fender should be replaced. Chain
}				measures greater than 90 percent.
FM-21		X		Prior inspection noted ground legs
	_			worn between 80 and 90 percent. Re-
	•			classify to Class A and downgrade to Class B mooring.
				crass o moor ring.
FM-48		x		Ground legs worn to between 80 and 90
				percent. Downgrade to Class C moor-
				ing.
FM-49		х		Ground legs worn to between 80 and 90
Ì				percent. Downgrade to Class C moor-
1			ļ	ing.

TABLE 1. SAN DIEGO FLEET MOORING STATUS - Continued

Ĺ	CU	RRENT COM	IDITION	}
ļ			POOR	
MOORING			(Unsatis-	
NUMBER	GOOD	FAIR	factory for	COMMENTS
		ļ	fleet use)	
EM 50	v			Cont.
FM-50	X			Good condition. Chain measurement
ł				greater than 90 percent.
FM-51	X			Good condition. Chain measurement
**	.,	1	]	greater than 90 percent.
				Jacobs Small Police
P-1		x		Riser/leg A worn between 80 and 90
				percent. Downgrade to a Class D
Ì				mooring.
ſ		{	[	
P-2	X	]		Good condition. Chain measurements
			1	greater than 90 percent. Fender
				should be replaced.
T-1			X	Diagonal large was between 90 and
1-1			_ ^	Riser and legs worn between 80 and
ŀ		<u> </u>		90 percent. Anchor exposed on botto
T-2		x		Riser measurements between 80 and
		İ		90 percent. Satisfactory condition
1			1	for use as a Class E mooring.
J	X			Buoy top jewelry heavily rusted.
				Chain measurements greater than 90
ĺ				percent.

TABLE 1. SAN DIEGO FLEET MOORING STATUS - Continued

	CUI	RRENT CON	IDITION	
MOORING NUMBER	GOOD	FAIR	POOR (Unsatis- factory for fleet use)	COMMENTS
К	X			Buoy has slight list. The cause of this list should be determined and corrected.
USS McKEE	X			Marker buoy chain should be replaced.
USS ELK RIVER	x			Good condition. Chain measured greater than 90 percent.

## ANNEX A

# FLEET MOORING INSPECTION RESULTS

This annex contains the following for each mooring:

- 1. A summation of the inspection data obtained by the CHESNAVFACENGCOM EIC and the UCT TWO divers.
- 2. A diver data reporting form.

CHESNAVFACENGCOM REPORT FP0-1-84(30), "SAN DIEGO FLEET MOORING UNDERWATER INSPECTION REPORT."

<u>Buoy</u>. This is a peg-top buoy with a 10-foot diameter. Its freeboard measures 3 feet. The topdeck and sides are severely rusted and pitted. The buoy's top jewelry is severely corroded, and its wood chafing strip and upper fender are in poor condition. The lower fender is completely deteriorated. The overall condition of this buoy is poor.

<u>Riser Chain Subassembly</u>. The riser chain is in good condition with all chain measurements greater than 90 percent of original wire diameter. The ground ring is buried.

Anchor Chain Subassembly. Not visible for inspection. However, what appears to be a 5,000 pound anchor was observed on the bottom under the buoy.

<u>Conclusions/Recommendations</u>. This mooring is unsatisfactory for fleet use. Its buoy is in poor condition and an anchor is visible on the bottom. This mooring should be removed from the service and overhauled at the earliest practical time.

CHESNAVFACENGCOM REPORT FPO-1-84(30), "SAN DIEGO FLEET MOORING UNDERWATER INSPECTION REPORT."

MOORING NO.: CH-L CLASS: (F LOCATION: SAN DIEGO DEPERHING PIERLAT; 32"41" 29.8" IN LONG: 117" 14" 15.4" W	BUOY TYPE: RG TOP (10' DIAMACHOR SIZE/TYPE: NIT WATER DEPTH: 51' VISIBILITY: 3' BOTTOM TYPE STAT SAN'D	DATE: 25 JULY 84 ENGINEER IN CHARGE J. A. THORUTOW DIVERS: SAKO/CICCOME
MOORING NO.: CH-L	BUOV TYPE: PEG TOP (10' DIA	DATE: 25 JULY 84 ENG

						COND	CONDITION				
<u> </u>	COMPONENTS	GAUGE	N.	SIN	SINGLE LINK %	*	DOO	DOUBLE LINK %	* *	ОЕРТН	COMMENTS
			LENGTH	÷06	80+	-08	+06	+08	-08		
# Top-2	1,"PADEYE.3"										BUOY FREE BUARD 3 FT, SEVERE
AWC	SPIDER, 2 34 SPINE(1)	)									CORROSION OF TOP JEWELRY, SEVERE
IRAH Su	A 2/2" PEAR LINK (4)										RUSTING POTTING TOPDECK AND
S BOTTON	BOTTOM - 4" DETACH, 31/3"										SIDES. CHAFING STRIP/UPPER FEUDE
	PEMR, 3" DETACH					ı					IN POOR CONDITION, LOWER FEWDER
	NEAR BUOY	215"	15."	111			111			9'	9' CONPLETELY DETERIORATED. ALLCHOR
RISER	MIDDLE			14			111			25'	75' (5000 LBS) ON BOTTOM BENEATH
	NEAR GRD RG	1	1	111			111			501	SO BUDY. RISERS GO PERCENT.
GR	GROUND RING										
	UPPER END										GROUND RING / ANCHOR CHAIN
LEG	MIDDLE										SUBASSEMBLIES BURIED.
NO. A	ENTERS BOTTOM										
GMIOGS	UPPER END										
LEG	MIDDLE										
9.02	ENTERS BOTTOM										
	UPPER END										
LEG	MIDDLE										
30.0V	ENTERS BOTTOM										

FOR ADDITIONAL LEGS USE OTHER SHEETS

. . . DERMATER INSPECTION REPORT."

...-1-64(30), ...

<u>Buoy</u>. This is a 12-foot-diameter drum-type buoy with a 4-foot freeboard. It has a single combination fender/chafing strip which covers the junction of the top deck and sides. There is some light rust at the waterline and 4 to 5 inches of marine growth on the bottom. Overall the buoy is in satisfactory condition.

<u>Riser Chain Subassembly</u>. The riser chain is in good condition with all measurements greater than 90 percent of its original wire diameter. The ground ring was located at a depth of 35 feet, about 5 feet above the bottom.

Anchor Chain Subassemblies. The visible upper section of the three chain sub-assemblies is in good condition. All measurements of the chain were above 90 percent. However, a NACO detachable link in subassembly B has loose pins and is worn to about 75 percent of its wire diameter.

<u>Conclusions/Recommendations</u>. Although a detachable link in anchor subassembly B is worn to less than 80 percent, this link is oversized and is still satisfactory if the mooring is downgraded to a Class E. However, this link should be replaced during the next scheduled overhaul.

CHESNAVFACENGCOM REPORT FP0-1-84(30), "SAN DIEGO FLEET MOORING UNDERWATER INSPECTION REPORT."

MOORING NO	MODRING NO: DH-3	CLASS		Q	100	CATION	Shi D	NEGO.	DEF	EEHI	LOCATION-SHI DIEGES DEPERTING PIERATI 3741323 LONG-111214 13.53"W
BUOY TYPE	BUDY TYPE NEW (15 DIAM) ANCHOR SIZE ITYPE: N.Z.	ANCHE	OR SIZE	TYPE	7	N	¥ A	TER DE	PTH	10	WATER DEPTH: 40' VISIBILITY: 5' BOTTOM TYPE, SILT / MUD
DATE	DATE: 24 JULY 84 ENGINEER IN CHARGE: J. A. THORITCA.	GINEER	IN-CHA!	RGE: J	, A	THOK	21.7CK	ļ	DIVERS	HAK	DIVERS. HARDING/ MAKN (1306-1403 HES)
						COND	CONDITION				
WOO COM	COMPONENTS	GAUGE		SINC	SINGLE LINK %	* ×	poni	DOUBLE LINK %		DEPTH	COMMENTS
		3176	LENGTH	क्र	â	- 08	ŝ	÷08	-08		
E 700.7	1" PROFYE 3"										BUDY HAS 4" OF FREE BOARD, SINGLE
AW S	SPIDE 2% SADGE										CONDIDATION FENDER CHAFING
OHA	("Prap Lute(4)										STRIP COVERS TWOTHOWOF TOP DECK
Y BOTTCI	S BOTCH J' CETAWAZE										AND SIDES, LIGHT RUST AT THE
BUG	PEDE 37 DETACH										WATERINE AND 4-5"OF
	NEAR BUOY	1/2	15,	7//				UN		701	HARINE GROWTH OW THE BOTTOM.
RISER	MIDDLE			7/				111		72	30' TOP HARDKYAPE HAS LIGHT
	NEAR GRD RG	-		100				11/1		33	33' RUST ALL PITS. A FURTH MACO
GRC	GROUND RING	4	, 7) X		0 3C	INSIDE DIAMETER	TER			35	35 DETACH ON GROUND RINK, NACO DETACH
8206	UPPER END	2/2	1,5,1					ンシン		32,	37' WHEG BHAS 25% WEAR AUD
GROUND	MIDDLE		->	111				11/1/		40	40' LOSE PLUS,
NO. A.	ENTERS BOTTOM										
BRUG	UPPER END	2%"	11.51	111				1,77		32	ARRESSORIES BETWEEN RISER AND
LEG	MIDDLE	->	7	111				11/1		40,	40' GROWND RING - 1/3" DETACH, 3
200 200 200 200 200 200 200 200 200 200	ENTERS BOTTOM										NACO DETACH, 24 PEARLUNK
Beut	UPPER END	1,6/10	1,8"	11/1				1377	$\downarrow$	37	
GROUND	MIDDLE	$\rightarrow$	3					1/1/2	$\downarrow$	18	
NO. C	ENTERS BOTTOM									_	

FOR ADDITIONAL LEGS USE OTHER SHEETS

CHESNAVFACENGCOM REPURT FP0-1-64(3U.

JERMATER INSPECTION REPORT."

SHEET OF

 $\underline{Buoy}$ . This is a 12-foot-diameter drum-type buoy with a 40-inch freeboard. It has a single wood combination fender/chafing strip covering the junction of the top deck and sides. A second wood fender near the bottom of the buoy is in good condition. The buoy's bottom has 4 to 5 inches of marine growth, and its top jewelry is lightly rusted.

<u>Riser Chain Subassembly</u>. The riser chain is in good condition with all singleand double-link measurements above 90 percent. The ground ring was located at a depth of 40 feet and is in good condition.

<u>Anchor Chain Subassemblies</u>. Only 5 feet of the three subassemblies was visible before the subassemblies entered the bottom. Measurements of the upper 5 feet or each of the chains were greater than 90 percent.

<u>Conclusions/Recommendations</u>. This mooring is in satisfactory condition for continued use as a Class D mooring.

CHESNAVFACENGCOM REPORT FPO-1-84(30), "SAN DIEGO FLEET MOORING UNDERWATER INSPECTION REPORT."

53. 1 LONG: 1174 11. 25 20	OTTOM TYPE: <u>SLLT/HLD</u>	(1112 - 1151 Hes)
LOCATION SAL DIEGO DEPERHING PIER LAT 32 4 39.58 11 LONG 117 14 11.25 W	42' VISIBILITY: 5'	ERS. GRIFFIN /HANN
LOCATION SAR DIEGO DEP	W.Z. WATER DEPTH	A, THORNTON DIV
MOORING NO.: DM-4 CLASS: D	BUDY TYPE: DRUH (13 DIAM) ANCHOR SIZE TYPE: NIETT WATER DEPTH: 42 VISIBILITY: 5 BOTTOM TYPE SIZE THES	DATE: 24 JULY SA ENGINEER IN CHARGE: J. A. THORNTOW DIVERS: GRIFFIN / MAUN (1112-1151 HES)
MOORING NO.	BUOY TYPE DEV	DATE: 24 JUL

						CONDITION	TION				
ioo	COMPONENTS	GAUGE	LINK	SIN	SINGLE LINK %	* *	DOUE	DOUBLE LINK %		<b>DEPTH</b>	COMMENTS
			LENGTH	÷06	+08	-08	•	+08	~08		
# Top. 3	TOP.3 PADEVE, 34"										THIS BUDY (SID ISI) IS A RISER TYPE
AWG S	10EE 334"										WITH A 3'4" FREEBOARD, HAS A SMELE
RAH N	A SPIDER (2) 11/1										COMBINATION FENDER/CHANNESTEIP
٨٥١	SAR LINKS (4)									-	COVERNG TUNCTION OF TOP DECK AND
B BUTTON	1-3"DETACH(2)										SIDKS, BELGILL WATER LINE LICID
	NEAR BUOY	27,2"	15"	11.11			111	-		5,	FENDER IN GOOD CONDITION. RETREY
RISER	MIDDLE			//			11/11			, ०र	30 HAS 4-5" OF HARINE GROWTH, TOP
	NEAR GRD RG	<b>→</b>	<u> </u>	1//			111			37'	37 SEWELRY HAS LIGHT RUST.
GRC	GROUND RING	3%"	X 19" INSIDE DIAMETER	12510	E DY	AMER	28			40,	
BRUG	UPPER END	2 1/4 "	13/2 111	11/			711			42 '	42   BELOW GROUND RANG, ONLY 5'OF LEG
LEG	MIDDLE									7	CHAIN VISIBLE BEFORE ITENTERS
0000	ENTERS BOTTOM										THE BATTOM.
660G GROUND	UPPER END	" 4, 2	13/2"	111/			11/1			42,	
LEG	MIDDLE										ACCESSIRIES BETWEEN RISER AWA
1800	ENTERS BOTTOM										GROUND RINK - 3/4 DETACH
BRUC	UPPER END	1,4,1	13/21	11/1/			11/1/1			47,	42 3" CLUK +"ARCO DETACH
LEG	MIDDLE										
2700	ENTERS BOTTOM										
FOR ADDIT	FOR ADDITIONAL LEGS USE OTHER SHEETS	тнея зн	EETS								SHEETOF

CHESNAVFACENGCOM REPORT FPU-:-84(30,)

HERWATER INSPECTION REPORT."

<u>Buoy</u>. This is a 10-foot-diameter drum-type buoy with a combination wood fender/chafing strip covering the junction of the top deck and sides. Its bottom is covered with about 3 inches of marine growth. The top jewelry is lightly rusted. In general, the buoy is in good condition.

<u>Riser Chain Subassembly</u>. The riser chain is in good condition with both singleand double-link measurements greater than 90 percent. The ground ring was located at a depth of 26 feet and was found to be pitted.

Anchor Chain Subassemblies. Subassemblies A and B are in good condition with all chain measurements greater than 90 percent. Subassembly C, however, is of nonstandard construction in that there is no leg chain. From the ground ring down, there is a 2 1/4-inch NACO detachable, a 2 1/4-inch detachable link, and a 3-inch end link which is shackled to the anchor. The anchor is almost directly below the buoy. In addition, the NACO detachable link is worn to about 50 percent of its original wire diameter.

<u>Conclusions/Recommendations</u>. Due to the extremely worn NACO link in subassembly C, this mooring is in poor condition and unsatisfactory for continued fleet use. This mooring should be kept out of service until unis link is replaced.

In addition, Table 7-62 on page 26-7-285 of DM-26 dictates that a Class D riser type mooring in 35 feet of water requires nine shots of 2-inch ground leg chain, or three shots per leg. Subassembly C should be replaced with a properly constructed chain leg at the earliest practical time.

CHESNAVFACENGCOM REPORT FPO-1-84(30), "SAN DIEGO FLEET MOORING UNDERWATER INSPECTION REPORT."

MOORING NO.: DM-5 CLASS: D	LOCATION-SAD DIEGO DEPERHUY: PIER LAT: 32 41 317 1/2 LONG: 117 14 16,5 10
BUOY TYPE: DELYI(10 DIAH) ANCHOR SIZE/TYPE:	BUOY TYPE: DECH (10 DIAH) ANCHOR SIZE/TYPE: NIEW WATER DEPTH: 31 VISIBILITY: 2 BOTTOM TYPE: 5/47
DATE: 26 JLLY 84 ENGINEER IN CHARGE: J. A	DATE: 26 JULY 84 ENGINEER-IN CHARGE: J. A. THORNTON DIVERS: SAKO PHELPS (1803 -0839 HES)

						COND	CONDITION				
000	COMPONENTS	GAUGE	LINK	SIN	SINGLE LINK %	% X	nod	DOUBLE LINK %		DEPTH	COMMENTS
			LENGTH	+06	+08	-08	+06	\$0¢	-08		
E 707.2	The PADEME 3"										THIS BUDY (SIN 174) HAS A
7MQ	DETROY 25 RAR			Î							CONBIDATION WOODEN FENDEN
A BUTTOL	A BUTTOH - 3" DETACH										CHAFING STRIP COURRING JUNGTHU
25	296" 6 LIUK, 28"										OF TOP DEOK AND SIDES, BUTTOM
ر ا8	C LIVK										HAS 3 OF HISKINE GROWTH. THE
	NEAR BUOY	234"	16.12 28 11	18.87			11.5			8,	TOP JEWELRY IS LIGHTLY
RISER	MIDDLE			VVV			///			,8/	RUSTED AND THE GRUUND RICK
	NEAR GRD RG	<b>→</b>	$\rightarrow$	111			111			13'	15 PITTED.
GRO	GROUND RING	434"	X 18"	10510	E D	X 18" INSIDE DIAMETER	47			77,	ACCESSORIES BETWEEN RISER
BEVE	UPPER END	-	12"	111			UVV			182	AND GROWD BUG- 3" DETACH
LEG	MIDDLE			11/1/			111				212"AJL 314" WACO.
0900	ENTERS BOTTOM			2			111/			3,'	EACH LEG ATTACHED TO GROWD
BEV6 GROUND	UPPER END			1			2			38,	RIDG WITH 21/4 NACO DETANY.
LEG	MIDDLE	$\exists$		//			111				LEG CHAS NO CHAIN. FRUM
1800	ENTERS BOTTOM	>	$\rightarrow$				11/1/			3, '	
GROUND	UPPER END			//				>	/	181	28' DETROH, A 3" END LINK, AND THE
LEG	MIDDLE			////				11/1			ANCHOR(UNDER THE BUDY). THE
2	ENTERS BOTTOM	7		11/1/			1			3,'	31 MACO DETACH IS ABOUT 50% WORD

FOR ADDITIONAL LEGS USE OTHER SHEETS

CHESNAVFACENGCOM REPORT POUL - - 84(30),

CRWATER INSPECTION REPORT."

SHEET \_\_\_\_\_ OF \_\_\_

 $\underline{\text{Buoy}}$ . This is a 10-foot-diameter peg-top buoy with a 3-foot freeboard. It has two rubber fenders and a single chafing strip. The buoy is in good condition.

Riser Chain Subassembly. The riser consists of 2 3/4-inch chain which is in good condition. Single- and double-link measurements were all greater than 90 percent. The ground ring is buried.

 $\underline{\text{Anchor Chain Subassemblies}}.$  None installed. The riser chain is connected to a stake pile.

<u>Conclusions/Recommendations</u>. This mooring is in satisfactory condition for continued fleet use. However, because of the 2 3/4-inch chain, this mooring should be reclassified as a Class A mooring.

CHESNAVFACENGCOM REPORT FP0-1-84(30), "SAN DIEGO FLEET MOORING UNDERWATER INSPECTION REPORT."

		NAC.	<b>10R SIZ</b>	BUOY TYPE: [EG 10P 10 DAM ANCHOR SIZE TYPE:		77	Š	ATER DI	EPTH:_	30	WATER DEPTH: 30 VISIBILITY: BOTTOM TYPE:5/17/592/D
TE: 2	DATE: 24 JULY 84ENGINEER-IN-CHARGE: J. A. THORUTON	VGINEER	-IN-CHA	NAGE:	T. A.	THOR	pra	1	DIVERS	: Ha	
						COND	CONDITION				
O	COMPONENTS	GAUGE	¥ Z	Sin	SINGLE LINK %	% X X	DOO	DOUBLE LINK %	×	DEPTH	COMMENTS
		1		ŝ	÷08	-08	ŝ	\$0¢	-08		-
Tac. 23	TOP. 24 PROEME, 24"										BUDY HAS 3 FREFERMARD
	SHACKLE, 34" DETACH										TWO RUBBER FENDERS AND
Bor	BOTTOM - 12 DETMON 34"										RUBBER CHAFING STEIP, BUNY
YOU	PEAR 14" DETACH										IN GOOD COUDITION.
		,									
	NEAR BUOY	13/4" 16/2" 11)	16 1/2	7/1			7				
RISER	MIDDLE			101			1/1				
	NEAR GRD RG	$\rightarrow$	$\rightarrow$	111			1/1/				
GRO	GROUND RING										
	UPPER END										
LEG	MIDDLE										
4 :: A	ENTERS BOTTOM										
GROUND	UPPER END										
LEG	MIDDLE										
<u> </u>	ENTERS BOTTOM							}			
dimino do	UPPER END										
LEG	MIDDLE										
ב ב	ENTERS BOTTOM										

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CHESNAVFACENGCOM REPORT FPU-1-84(30), Shin Litan ...

Buoy. This is a 12-foot-diameter peg-top buoy with a 62-inch freeboard. The top jewelry is in poor condition, and the tension bar top eye has a 3/16inch-wide by a 1-inch-deep crack extending for 16 inches along its top. This crack was previously reported as a result of the 1982 underwater inspection. The buoy has two wooden chafing strips and two wooden fenders. These are in good condition except for the lower fender which is badly deteriorated. The buoy has moderate rust on its sides and 2 to 3 inches of marine growth on its bottom.

Riser Chain Subassembly. The riser chain is in fair condition with measurements near its mid-section down to 80 to 90 percent of its original wire diameter. The riser enters the bottom and reappears near a 12-inch by 12-inch "H" pile with 1 1/2-inch flanges.

Anchor Chain Subassemblies. None installed. The riser chain goes directly to an "H" pile in the bottom.

<u>Conclusions/Recommendations</u>. Due to its 2 3/4-inch riser chain, this mooring should be reclassified to a Class A mooring and downgraded to a Class B because of its worn chain. However, since its design does not fall into any standard mooring classification, no estimate of its holding capacity is available. The mooring should be used with caution.

The top jewelry should be examined and, if necessary, replaced. Immediate action should be taken to repair the crack in the tension bar top eye.

CHESNAVFACENGCOM REPORT FPO-1-84(30), "SAN DIEGO FLEET MOORING UNDERWATER INSPECTION REPORT."

MOORING	MODRING NO. DH-8 CLASS.	CLASS		BB	100	CATION	7	1600	DEFER	मार	LOCATION SAN DIEW DEFERHILE FIER LAT 3041 34.2 N LONG 112/4 15.9 4.
BUOY TYPE	BUOY TYPE PE TOF (15' DATANCHOR SIZE ITYPE.	972 NCH	OR SIZE	E/TYPE		T/V	¥	TER DE	PTH	40	WATER DEPTH: 40 VISIBILITY: 5 BOTTOM TYPE, 5/27 /5/24/
DATE: 24	DATE: 24 SULY 84 ENGINEER IN CHARGE: SA THORNTON	IGINEER	IN-CHA	RGE: 7	18	THOR	Wester		DIVERS	HAE	DIVERS. HARDING/PHELPS (1451-1527HRS)
						COND	CONDITION				
Ö —	COMPONENTS	GAUGE	LINK	SIN	SINGLE LINK %	% Y7	DOO	DOUBLE LINK %		DEPTH	COMMENTS
				+06	÷	- 98	ŝ	è	-08		
E 709-3	ETOP-3 PADEME 3/2"										BUOY HAS A 5' "FREE BRARED, MORWIG
SH	404E 34×14										NVHBER IS PRINTED OWITS SIDE
HAH Dr.	Ί¢										WITH PED SPRAYPAINT. TOP JEWERLY
S BOTTON	6 GOTTON. 4 DETACH 24"										IS W POOR CODUTION, PADEYE HASA
BU BU	PEAR, 3/5" DETACH										1 WIDE 14 TO 1 OFF CEACK ALONG
	NEAR BUOY	274"	5,21	111			111/1			.0	ITS TOP, BUY HAS MODERATE
RISER	MIDDLE				111			11/1		35'	RUST CN SIDES, HAS THE HINDEN
	NEAR GRD RG	<b>→</b>	<b>→</b>	15/1			///			10,	40 CHAFING STRIPS AND THURSON
GRC	GROUND RING										FENDERS, LOWER FENDER AND
GROHIND	UPPER END										DETERIORATED, OTHERS INGEND
LEG	MIDDLE										COUDITION. BOTTOM HAS 3-3" OF
2	ENTERS BOTTOM			<del> </del>							MARINE GROWTH RISEN ENTERS
GROUND											THE BUTTON AND REAPPEARS
LEG	MIDDLE					<del>-</del>					AT A 12 X 12" H BEAMMITH 12"
	ENTERS BOTTOM										FHAGGES NO MARINE GROWTH
CBOUND	UPPER END										AFLOW 351
LEG	MIDDLE										
) (NO.	ENTERS BOTTOM										
FOR ADDIT	FOR ADDITIONAL LEGS USE OTHER SHEETS	THER SH	EETS								SHEET OF

LA LA RWATER INSPECTION REPORT."

CHESTANT ACENDOLIS ALFORD PPD-1-84(30), JAM

<u>Buoy</u>. This is a 12-foot-diameter peg-top buoy with a 5-foot freeboard. Its two rubber fenders and two rubber chafing rails appear to be new. The buoy has an experimental polyurethane coating and is in good condition.

<u>Riser Chain Subassembly</u>. The 2 3/4-inch riser is connected to a 12-inch by 12-inch "H" Pile which sticks up about 6 feet above the bottom. There are some loose riser chain and accessories piled on the bottom below the buoy.

Anchor Chain Subassembly. None installed. The riser chain goes directly to the "H" pile.

<u>Conclusions/Recommendations</u>. This mooring is in satisfactory condition for continued fleet use. However, because of the 2 3/4-inch riser chain, this mooring should be reclassified as a Class A mooring.

CHESNAVFACENGCOM REPORT FPO-1-84(30), "SAN DIEGO FLEET MOORING UNDERWATER INSPECTION REPORT."

£.	46.0	(SS)
214 18	शास	50 1
ONG: //	A TYPE:	- 10
LOCATION: SAIN DIEGO DEFERTING PIER LAT: 324141,51/ LONG: 117/4 128 W	BUOY TYPE: PEG TCP (13 DIAH) NICHOR SIZE TYPE: NIT WATER DEPTH: 40' VISIBILITY: 5' BOTTOM TYPE SILT (144)	DATE: 24 JULY 84 ENGINEER IN CHARGE: J. A. THORNTON DIVERS: GRIFFIN/MANN (1020-1050 HRS)
32.414	2	1,1/
LATE	.ITY:	MAX
REE	ViSIBII	EFINI
न्याप	10,	5.00
KFR	H.	)IVERS:
10931	IER DEI	2
JAN D	WA	LTJ.
ATION:	7	THOR
1000	7	Ø.
MOORING NO: $DH-9$ class: $BB$ LC	TYPE:_	GE: J
BI	R SIZE/	N-CHAR
CLASS:	Умсно	NEERII
6	DIAH	ENGI
DM-	rce (i	184
.: 0N	PEG	30%
)RING !	Y TYPE	E: 24
MOC	800	DAT

						COND	CONDITION				
too	COMPONENTS	GAUGE	LINK		SINGLE LINK %	% X2	DOO	DOUBLE LINK %		ОЕРТН	COMMENTS
				+06	+08	-08	<b>6</b> 6	- 90 + 04	-08		
	TOP-234" PROEYE 34"										BUDY HAS 5'DE FREEGOARD, TWO
	SHACKLE 35 SHACKLE										RUBBER FENDERS AND THE CUBBER
яАн <b>*</b>	4×13'2" RIVE										CHAFING ENILS ARE NEW. BUT HAS
SOTTEM	BOTTEM-2 & DETACH 24"										AN EXPECIMENTAL POLYVRETHANE
BILL	BIWK, 3 4 DETACK										CONTING AND IS IN GOOD COURTY
	NEAR BUOY	2%.	1.2.	1111			11/			, <sub>0</sub> 0	RISER CONVECTED TOA 13 x13"
RISER	MIDDLE			11/1			11/1			,α	THE WITH I "FLANGES THE
	NEAR GRD RG	$\rightarrow$	<del>\</del>	///			11/1			40'	40' HPILE STICKS G'ABOUE THE
GRC	GROUND RING										Butch.
9	UPPER END										THEDRINGE AT THE BOTTUM CF
LEG	MIDDLE										THE ELSER - 234" DETACH 374"
¥	ENTERS BOTTOM										BLIUK, 274" CLIUK, 4" 1400
GROUND	UPPER END										DETACH, AUD A 3 74" PEAR
LEG	MIDDLE										LICK, RISER CHAID ALD
	ENTERS BOTTOM										ACCESSORIES ARE PILED ON
Civilogo	UPPER END										RETTON.
LEG	MIDDLE										
) ()	ENTERS BOTTOM										

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FOR ADDITIONAL LEGS USE OTHER SHEETS

is suberwater inspection report."

SHEET \_\_\_ OF \_

CHESNAVFACENGCOM REPURT FPU-1-84(30,,

Buoy. This is a 12-foot-diameter peg-top buoy with a 4-foot freeboard. It has a single combination wood fender/chafing strip covering the junction of the top deck and sides. This material is in good condition. The buoy has moderate rust on its sides and its bottom has 4 to 5 inches of marine growth.

Riser Chain Assembly. The 2 3/4-inch riser chain is in good condition with all measurements greater than 90 percent. Riser chain has about 4 inches of marine growth. The ground ring was located at 25 feet and is in good condition.

Anchor Chain Subassembly. The 2 1/4-inch anchor chain is in good condition with all measurements greater than 90 percent. Only about 5 feet of each leg chain was visible before it entered the bottom.

 $\underline{\textit{Conclusions/Recommendations}}. \ \ \textit{This mooring is in satisfactory condition for continued use as a Class D mooring.}$ 

MOORING	MOORING NO. DM-11 CLASS.	CLASS	1	D	07	CATION	SAN	DIECO	DEPL	EKU	LOCATION SAW DIECO DEPERHILIE PIERAT, 3241 489 "N LONG. 11714 15.8"
BUOY TYPE	BUOY TYPE (EL TOP (13 DIAM) ANCHON SIZE ITYPE.	44 JANCH	IOH SIZI	E/TYPE:		TIT	*	TER DE	PTHE	30	WATER DEPTH: 30 VISIBILITY: 5' BOTTOM TYPE, SLET (HLD
DATE: 2	3 Juny 84 En	NGINEER	IN-CHA	RGE J	A	THOF	72.73	5	DIVERS	GRI	DATE: 23 JULY 84 ENGINEER IN CHARGE J. A. THO ELTON DIVERS: GRIFFIN MAND (1210-1326 HES)
						CONDITION	TION				
Ō	COMPONENTS	GAUGE	XNII	SIN	SINGLE LINK %	% ×	DOO	DOUBLE LINK %		ОЕРТН	COMMENTS
				+06	\$0	-08	\$	÷08	-08		
_	TOP- 2% PADEYE										BUDY HAS 4 FREE BOARD, SIDGLE
	234" PEAR										COMBINATION WOOD FEWDER/CHAFING
RAH											STRIP COVERS JUNCTION OF
٨٥											TOP DECK AND SIDES IN
пø											GOOD COUPLIAN. HODERATE
	NEAR BUOY	なて	.5,91	100			111			,8	RUST ON ALL SIDES, BUDY
RISER	MIDDLE			11/1			11/1			151	AND CHAIR HAVE 4-5"
,	NEAR GRD RG	*	111	111			11/1			23'	HARINE GOONTH.
GRC	GROUND RING	4/2"	×18/4	15/1/	> 1	4/2" X18/4 WSIDE DAMETER	FR.			25'	25' ACCESSORIES BETWEEK
864	UPPER END	2 1/4	0 1/2 13/51 12/0	797			1///				GROUND PING AND ALLHOR
LEG LEG	MIDDLE			17/1			1///				OHAIN SUBASSESIY - 4"
030 <sub>0</sub>	ENTERS BOTTOM			111			////			Š.	
SEA6	UPPER END			11/1/			////				LICK, AND 314" DETACH.
LEG NO B	MIDDLE			1/2/			1				
1700	ENTERS BOTTOM			11.7			11/1			3	
BEVE	UPPER END			7/1			1/2				
LEG	MIDDLE			3			12/1/2				
330	ENTERS BOTTOM	<b>→</b>	<b>&gt;</b>	////	}		1//1			30	
FOR ADDIT	FOR ADDITIONAL LEGS USE OTHER SHEETS	THER SI	4EETS								SHEET OF

... ENWATER INSPECTION REPORT."

Chedian't ACENGCOM REPORT FPU-1-84(30), Dan Line

A-17

# MOORING DM-G

<u>Buoy</u>. This is a 10-foot-diameter peg-top buoy. The class of the mooring has not been reported. It has two rubber fenders and a rubber chafing rail, all in good condition. The buoy has a fiberglass coating and looks new; however, it is listing about 30 degrees. The cause of the list is unknown.

Riser Chain Subassembly. The 2 1/2-inch riser chain is in good condition and measured greater than 90 percent of its original chain size. The riser enters the bottom at 40 feet.

<u>Anchor Chain Subassemblies</u>. None installed. The riser chain is attached to a stake pile which was not visible.

<u>Conclusions/Recommendations</u>. This mooring is in satisfactory condition for continued fleet use. The cause of the buoy's list, however, should be investigated and corrected.

WATER DEPTH: 40 VISIBILITY: 5' BOTTOM TYPE SILT /HL'D LOCATION: SAN DIESS DEPENING FIER LAT: 3241448" LONG: 117/1/12.7" DIVERS: GRIFFIL HALK DATE: 24 JULY 84ENGINEERINCHARGE: J. A. THORUTOL BUOY TYPE (16' DIM) NCHOR SIZE TYPE: NIT MOORING NO : DM - G CLASS:

						COND	CONDITION				
Ö	COMPONENTS	GAUGE	LINK	SIN	SINGLE LINK %	4K %	DOO	DOUBLE LINK %	1K %	ОЕРТН	COMMENTS
			LENGTH	+06	+08	-08	+06	+08	-08		
	TOP- 215" PADEYE 3"										THE BUNY HAS TOWN PLYBER
AWO	SADER 24" SPIDERS										FENDERS AND A CHAFING
ЯАН	15" (FEARS (4)										RAIL IN GOOD COUDITION!
S Berrie	S BITTON : " VETICH 21"										BWY HAS FIBERGLASS
18	BLINK 3" DETACH				-						COATING AND LOCKS NEW
	NEAR BUOY	3/2"	15"	17			111			8,	HOWEVER 17 15 LISTING
RISER	MIDDLE			1/3/			111/1			13,	30 DEGREES, CAUSE OF
	NEAR GRD RG	<b>→</b>	<b>~</b>	11/1			11/1			1/2,	HE' LIST UNKNOWN.
19	GROUND RING										
	UPPER END										
LEG	MIDDLE										
NO.	ENTERS BOTTOM										
GROLIND	UPPER END										
LEG	MIDDLE										
	ENTERS BOTTOM										
GMI TO GO	UPPER END										
LEG	MIDDLE										
NO.	ENTERS BOTTOM										
FOR ADD	FOR ADDITIONAL LEGS USE OTHER SHEETS	THER SH	EETS								SHEET 1 OF 1

CHESNAVFACENGCOM REPURI FRU-1-84(30), ...

LUERMATER INSPECTION REPORT."

<u>Buoy</u>. This is a 12-foot-diameter peg-top buoy with a  $4\ 1/2$ -foot freeboard. It has two wood chafing strips and two wood fenders (the lower of which is completely deterio ated). The buoy has severe rust on the top padeye and moderate rust on the sides.

Riser Chain Subassembly. The 2 3/4-inch riser chain is in good condition. All chain measurements were greater than 90 percent of its original wire diameter. The ground ring was located at a depth of 35 feet.

Anchor Chain Subasemblies. The 2 1/2-inch anchor chain of each of the seven subassemblies is in good condition with all measurements greater than 90 percent. The sunken 56-foot boat that had precluded the inspection of six of this mooring's legs during the 1982 inspection (because it was lying across these legs) has been removed.

<u>Cathodic Protection</u>. Cathodic protection continuity wire is installed on all seven ground legs but no anodes were observed. Underwater voltmeter readings measured the cathodic protection on the seven legs to be between -.77 and -.65 volts. There were no anodes on the buoy.

<u>Conclusions/Recommendations</u>. This mooring is in satisfactory condition for continued fleet use. However, because of the  $2\ 3/4$ -inch chain in the riser, this mooring should be reclassified as a Class A mooring. In addition, the buoy should be overhauled.

MOORING NO. FH-19 CLASS. 8 B LOCATION: HARBOR ISLAUD SAW DIEGO LAT3243/77/N LONG. 1/2 11 18.4 W	BUOY TYPE PECTOP (12 DIAL) ANCHOR SIZETTYPE: ALT WATER DEPTH: 42 VISIBILITY: 2 BOTTOM TYPE SETTIND	ERS: CICCONE/MANN
LOCATION: HARBOR ISLAU	YPE: NI WATER DEPTH	E. J. A. THORNTON DIVE
MOORING NO. FH-19 CLASS. 8B	BUOY TYPE PE TOP (12' DIME) ANCHOR SIZE IT	DATE: 27 JULY 84 ENGINEER IN CHARGE: J. A. THORUTON DIVERS: CICCONE/MANN

						CONDITION	TION				
03	COMPONENTS	GAUGE	LINK	SIN	SINGLE LINK %	% X.	DOO	DOUBLE LINK %	× ×	DEPTH	COMMENTS
		;	<del>_</del> =_	+06	+08	-08	ŝ	90+	- 08		
	TOP 3 MIXYE 3/4"								CPS Vours		BLOY FEEE BOARD 4'6", HAS TWO
	SPIDER 34" SPIDER	$\widehat{x}$									WOOD CHAFIDE STRIPS AND TWO
RAH	21/2"(8486(3)	• !									WOOD FENDERS, LOWER FENDER
_~	30 TTO H - 3/4" DETACH 25										COMPLETELY DETERIORATED.
	PEAR, 2 3 USTAVH										SEVERE RUSTON TOP PADEYE
	NEAR BUOY	234"		100			111			,&	AND MODERATE RUST ON SIDES.
RISER	MIDDLE			111			///			, Q	SUNKED BOAT REPORTED TO BE
	NEAR GRD RG	$\rightarrow$		11/1			111			31'	LYING ACROSS SIX OF THE MODEING
GR	GROUND RING	4/2"	4/2" XIL" INSIDE DIBHETER	12510	TIO 3	HETE	:6			35	35' LEGS HAS BEEN REHOVED, ALL
Bené	UPPER END	25"	15"	100			111		68	37	37 LEGS MEANURED > 70%. ALL
LEG	MIDDLE			111			111				LEUS HAVE CONTINUITY CHOLES
030 0	ENTERS BOTTOM			11.7			111			43,	FUE CATHEDIC PROTECTION BUT
BRUS	UPPER END			111			///		19:-	32/	-,67 39 NO ANDRES WERE OBSFELLED.
LEG	MIDDLE			111			111				
0000	ENTERS BOTTOM			111			111			431	43 SINGLE CHERATING MAVIENTIONAL
ERUE	UPPER END			111			11/		65	35,	39' LIGHT ON TOP OF BOOK.
LEG	MIDDLE			11/2			11/				
1400 1400	ENTERS BOTTOM	$\rightarrow$	$\rightarrow$	111			11/1			42,	

FOR ADDITIONAL LEGS USE OTHER SHEETS

CHESNAVFACENGUM REPONT TOU-1-84(3C), ...

DERWATER INSPECTION REPORT."

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LOCATION: HARBOR ISLAWD SAN DIFFCLAT: 31 43/7.1 N'LONG: 117/11/8+W	17 WATER DEPTH: 42' VISIBILITY: 3' BOTTOM TYPE SILT / HUD	DATE: 27 JULY 84 ENGINEER IN CHARGE: J. A. THORNTON DIVERS: CICCOUE / MANN
MOORING NO: FH-19 CLASS: BB LO	BUOY TYPE: 126 TOP ( 2014) ANCHOR SIZE TYPE: NI	DATE: 27 JULY 84 ENGINEER IN CHARGE: J. A.

LINK SIF	COI	CONDITION NK % DC	TION				
8	NGLELI	% XN	noa				
				DOUBLE LINK %		DEPTH	COMMENTS
	+08	-08	+06	\$0\$	-08		
					CPS LOUTS		
						-	
11/1			111			30'	AMESSORIES BETWEEN GROWD
11/1	/		///			_	RIDG AND ANCHOR CHAIL
1/1						42'	42 SUBASSENBLIES - 4 NACO
1/1			101	_`	-77		DETACHABLES 3 OF WHICH
1/			11/1				HAVE TWO 2 13" PEAR LINKS
/						42,	42 REMAINING HAS ONE PEAR
JUV			///		-67	35,	-67 37 LINK, FACH PEAR LINK
1/2			1///				HAS A 2/3" DETACH COUNTERTURY
\ <u>\</u>			1//			431	43 THE CHAIN.
							42 42 42 42 42 42 42 42 42 42 42 42 42 4

A-22

FOR ADDITIONAL LEGS USE OTHER SHEETS

SHEET 2. 0F 3.

CHESNAVERLENGLUM KEPUR. ....-1-04(30), SAM ...

MOORING	MOORING NO. FM-19 CLASS. BB	CLASS		B	Ĭ,	CATION	HARB	OR IS	QM47.	SAU	LOCATION: HARBOR TSLAND SAN DIFGO LAT: 32,43/171/ LONG: 117/1/16.4/
BUOY TYPE	PEG TOP (1, D)	411ANCH	OR SIZE	:/TYPE:	5		Š	ATER DE	PTH:	42'	BUOV TYPESE TOP (12 DIAMANCHOR SIZE ITYPE: NL WATER DEPTH: 42 VISIBILITY: 2 BOTTOM TYPE: 514 / 1100
DATE: 25	7 JULY 84 EN	GINEER	·IN-CHA	RGE: 🗍	4	THOR	270	2	DIVERS	7777	DATE: 27 JULY 84 ENGINEER IN CHARGE: J. A. THORD TOW DIVERS: CICCONE/HANN
						CONDITION	TION				
00	COMPONENTS	GAUGE	LINK		SINGLE LINK %	%	DOO	DOUBLE LINK %		DEPTH	COMMENTS
			LENGTH	+06	+08	-08	÷06	+08	-08		
	SEE SHEET LOF 3								202 2012		
AWD											
ЯАН											
٨٥١											
∩ø										-	
	NEAR BUOY										
RISER	MIDDLE										
	NEAR GRD RG										
GRC	GROUND RING										
BRNG	UPPER END	.,c/.c.	1,5,1	100			10/0		2.74	37'	
reg Preg	MIDDLE	_		1/1/1			111				
3.30 F	ENTERS BOTTOM	$\rightarrow$	$\rightarrow$	1.1/			17.			177	
GROUND	UPPER END										
LEG	MIDDLE										
	ENTERS BOTTOM										
CROIND	UPPER END										
LEG	MIDDLE										
202	ENTERS BOTTOM										

A-23

CHESNAVEACENGUM REPURT FPU-1-84(30), .

FOR ADDITIONAL LEGS USE OTHER SHEETS

SHEET 3 0F

Buoy. This is a 16-foot-diameter non-riser (telephone type) buoy with eight legs. Each of the buoy's bottom four padeyes has a  $3\ 1/4$ -inch pear link attached to it. Two  $2\ 1/2$ -inch ground legs are connected to each pear link. The buoy has a  $3\ 1/2$ -foot freeboard, a wood chafing strip, and a single wooden fender (partially missing).

Anchor Chain Subassemblies. All eight of these subassemblies are in good condition, and the single- and double-link measurements of each leg were greater than 90 percent of its original wire diameter. About 1 to 2 inches of marine growth was observed on the anchor chain. Assemblies E and F cross each other and appear to run out in a similar direction. Legs G and H are on top of each other and disappear into the bottom on the same bearing.

<u>Conclusions/Recommendations</u>. This mooring is in satisfactory condition for continued fleet use. However, its leg orientation appears questionable.

<b>CLERMATER INSPECTION REPORT."</b>	
(30,,00)	

SHEET

MOORING	MOORING NO. FH-20 CLASS:	CLASS	ĺ	88	60	CATION	HARB	OR I	SLAU	D 590	LOCATION: HARBOR ISLAND SAN DIEGO LAT 3243/66/11 LONG. 117 11 029/4
BUOY TYPE	BUOY TYPE ILW RISERTELE PHOLENCHOR SIZE TYPE.	HOLED CH	IOR SIZE	E/TYPE:		NI	/M	ATER DE	PTHE	.5	- WATER DEPTH: 40' VISIBILITY: 5' BOTTOM TYPE: SILT HUD
DATE:	27 JULY 84 EN	IGINEER	-IN-CHA	RGE:	1.4.	THO	PNTO	2	DIVERS	377	DATE: 27 JULY 84 ENGINEER IN CHARGE: J.A. THORNTON DIVERS: CICCONE/HAUN (1333-1449 HRS)
						COND	CONDITION				
03	COMPONENTS	GAUGE	LINK	SIN	SINGLE LINK %	* × ×	DOO	DOUBLE LINK %		DEРТН	COMMENTS
l			LENGTH	÷06	+08	-08	÷	÷ 08	-08		
	TOP-414" FADEYE, 234"										THIS BOOY (5/N 69) 15 16 1N
	DETACH 3/2" DETACH										DIAMETER AND HAS 8 LEGS ATTRIED
<b>д</b> 2	2/2 PEAR LWK (4)		_								TO IT, THE BUDY HAS A 3'C" FREE BOARD
											AND A WORKING NAVIGATIONAL
18											LIGHT OUTOR IT HAS ONE WOD
	NEAR BUOY										FENDER (PARTIALLY MISSING) AND
RISER	MIDDLE										A WOOD CHAFING STRIP. EACH OF
	NEAR GRD RG										THE 4 BUDY PAD EYES HAS A34"
GRC	GROUND RING										PEAR LIUX ATTACHED TOIT WITH
BRUG	UPPER END	2/2"	15"	3			111			7,	3 LEGS CONNECTED TO EACH PEAR
LEG	MIDDLE			///			111			25'	25' LINK, ACCESSORIES ATTACHED TO
320	ENTERS BOTTOM			1/2			///			10,	40' EACH LARGE PEAR LINK ARE 3"
GROUND GROUND	UPPER END			11.77			11/1			-8	DETROH(2) 2/2" PEAR LIUK (2) 3/2"
LEG	MIDDLE			//			///			25,	DETACH(2), BOOY HAS A 2'x 3'
0000	ENTERS BOTTOM			1///			111			40,	40' WELLOW TOP WITH TWO 21/2"
BROOK	UPPER END			11/			1/1/			۶,	8' PIPES AND GATE VALUES FROM
LEG	MIDDLE		_	11/1			7			251	25 A"Y "JOIUT, ALL UALVES ARE
1150	ENTERS BOTTOM	$\rightarrow$	<b>\</b>	111			///			40'	40' CAPFED
											,

A-25

FOR ADDITIONAL LEGS USE OTHER SHEETS

CHESNAVFACENGCOM REPORT FP0-1-84(30,,

FOR ADDITIONAL LEGS USE OTHER SHEETS

SHEET 2 OF 3

MOORING	MOORING NO.: FM-20 CLASS: BB	_ CLASS	8	B	01	CATION	HARB	OR IS	QOH1	59.00	LOCATION HARBOR ISLADD SAN DIFED LAT: 32 43 K.6 N LONG: 117 11 27 14
BUOY TYPE	BUOY TYPE NOW. RISER	ANCF	10R S12	ANCHOR SIZE/TYPE:_	1	7	Ä	ATER DE	EPTH:	40,	WATER DEPTH: 40' VISIBILITY: 5' BOTTOM TYPE, SYLT/HUD
DATE: 22	DATE: 22 JULY 84 ENGINEER IN CHARGE J. A. THORNTON	VGINEER	I-IN-CH/	VRGE J	· H	THOR	NTOR		DIVERS	י כוככ	DIVERS: CICCOLLE /HAND (333-1449 HES)
						CCMD	CCMDITION				
100	COMPONENTS	GAUGE	188	SIN	SINGLE LINK %	% ¥ 7	DOO	DOUBLE LINK %	1	рертн	COMMENTS
				+06	+08	-08	+06	+08	-08		
	SEE SHEET 10F3										
AWG											
ВАН											
YOUR											
	NEAR BUOY										
RISER	MIDDLE										
	NEAR GRD RG										
GRC	GROUND RING										
Beside	UPPER END	21/5"	21/2" 15"	11/2			100			12	LEGS EAUD F OROSS EACH OTHER
LFG	MIDDLE			111			111			251	251 AND APPEAR TO RUN OUT THE SAME
130%	ENTERS BUTTOM			111			///			401	40' BEARING, ABOUT 1-2" OF HARIUE
BROUND	UPPER END			111			111				GROWTH ON THE CHAIN
LEG	MIDDLE			111			111			25'	
2200	ENTERS BOTTOM			111			111			40,	
BEK	UPPER END			11/1			11/1			51	
LEG	MIDDLE			1//			11/1			150	
2200	ENTERS BOTTOM	$\rightarrow$	$\rightarrow$	111			111			401	

MOOR	ING NC	MOORING NO. $F\mathcal{H}\cdot 2\mathcal{O}$ class.	20	_ CLAS	, in	BB	100	CATION	HARBO	R 154	S dans	AU D.	LOCATION HARBOR ISLAND SAN DIEGO LAT. 32 43 K. ( & LONG: 117 11 679 V
300Y	TYPE:	BUOV TYPE: ABAD - RISER ANCHOR SIZERTYPE:	15.ER	ANCE	10R S12	E/TYPE	- 1	NI	WA	TER DE	PTH:	40	WATER DEPTH: 40 VISIBILITY: 5 BOTTOM TYPE SILE / HUD
DATE:	29	DATE: 29 JULY 84 ENGINEER-IN-CHARGE J. A. THORNTON	7. E.	<b>IGINEEF</b>	: IN-CH	ARGE:	J. A	THOR	NTON		DIVERS	1. C/CC	DIVERS. CICCONE/HAWN (1333-1449 HES)
								COND	CONDITION				
	COM	COMPONENTS	_	GAUGE	I N		SINGLE LINK %	% XN	DOO	DOUBLE LINK %	Г	DEPTH	COMMENTS
				<u> </u>		â	÷08	-08	÷06	÷08	-08		
38													
AWC													
BAH													
1 40													
∩a	ļ												
		NEAR BUOY	ογ										
RISER	<u>~</u>	MIDDLE											
	<b>L</b>	NEAR GRD RG	D RG										
	GROL	GROUND RING											
BENG	-	UPPER END	Ď	2/2"	15"	111			101			$\mathcal{C}'$	LEGS GANDH AREON TOP
E E		MIDDLE				111			///			25'	OFEACH OTHER AND RUNOUT
300		ENTERS BOTTOM	OTTOM			1			111			40	40 THE SAME BEARING
BENG		UPPER END	ē			141			111			30	
LEG		MIDDLE				11/11			//			25'	
35	0	ENTERS BOTTOM	OTTOM	$\rightarrow$	<b>&gt;</b>	11/1			///			401	
		UPPER END	Ş										
LEG LEG		MIDDLE											
2	_	ENTERS BOTTOM	ОТТОМ										

CHESNAVEALENBEOM RECORD COLEA-54(30)

FOR ADDITIONAL LEGS USE OTHER SHEETS

CERNATER INSPECTION NEPUR.

SHEET 3 OF 3

<u>Buoy</u>. This is a 12-foot-diameter peg-top buoy which has a 45-inch freeboard. It has two wooden chafing strips and a wood fender in good condition. A second wood fender, the lower one, is about 80 percent deterioriated. The buoy has a heavy coating of rust on its sides.

<u>Riser Chain Assembly.</u> The 2 3/4-inch riser chain is in good condition. Single-and double-link measurements were greater than 90 percent of original diameter. The ground ring is in good condition and was located at a depth of 35 feet.

<u>Anchor Chain Assemblies</u>. Seven legs are attached to the ground with NACO detachable links, pear links, and other types of detachable links. The 2 1/2-inch anchor chain is in good condition with all measurements greater than 90 percent of its original diameter.

<u>Conclusions/Recommendations.</u> As a result of this inspection, this mooring appears to be in good condition. However, during the previous inspection, specific parts of anchor chain subassemblies 4 and 7 were measured to be between 80 and 90 percent (fair condition) of their original diameter. Because of the 2 3/4-inch chain in the riser, this mooring should be reclassified as a Class A mooring and downgraded (because of chain wear) to a Class B. The buoy should be refurbished.

MOORING NO. FH-21 CLASS. BB LOCATION: HAKBOR ISLAUD, SAN DIEGO LAT, 33 43 15.5 " LONG: 1170 1056.1" LU	BUOV TYPE PEC TOP (12 DIANANCHOR SIZE TYPE: NI WATER DEPTH: 40 VISIBILITY: 5 BOTTOM TYPE SILT (114)	WTON DIVERS: SAKO PHELPS (1215-1248 HES)
OCATION:	NI	THOE
MOORING NO: FH-2/ CLASS: BB	BUOV TYPE PE TOP (12 DIANANCHOR SIZE TYPE:	DATE: 27 JULY 84 ENGINEER IN CHARGE: J. A. THO ENTON

							COND	CONDITION				
	CO	COMPONENTS	GAUGE	LINK		SINGLE LINK %	NK %	nod	DOUBLE LINK %		<b>DEPTH</b>	COMMENTS
				LENGTH	<b>6</b>	+08	-08	÷	÷08	-08		
	TOP. 2	TOP. 234" PADEYE 3"										BUDY HAS A S'9" FREE BOARD AND
	SP	SPIDER IN PEACL										TWO 6" CHAFING STRIPS IN GOOD
RAH	2%	21/5" PEARS (4)										COUDITION. IT HAS TWO WOOD
	20TTO	BOTTOM-3 % NACO DEMOLIL	₹									FENDERS, THE LOWER OF WHICH
na	r	25" DETACH										15 80 % DETECTORATED. THERE 15
L		NEAR BUOY	24"	.7/21	111			111			.8	HEAVY RUST OW 175 SIDES, THERE
RISER	ER	MIDDLE			11/1			111			20,	ARE FOUR 4"NACO DETACHABLE
		NEAR GRD RG	$\rightarrow$	$\rightarrow$	111			111			33'	33' LINKS ATTACHED TO THE GRODUD
	GRO	GROUND RING	512"	X15	11501	E DIA	513" X15" INSIDE DIAMETER	k			35'	35' RING. THELE OF THESE ARE COMMENTED
30	Center of	UPPER END	1/2"	اکر"	15" 111			111			ĸ	X' TO TWO 312" PEAR LIUKS AND THE
E S	- Tools	MIDDLE			111			///				FOVETH COUNTYED TO OUE 3/2"
2 <b>%</b>	180°C	ENTERS BOTTOM			111			1/1/			40 -	46 PEAR LINK. EACH PEAR LINK
\$ €	BROUND GROUND	UPPER END			100			///			36'	34' HAS A 312" DETACH ATTROVED
LEG	., a	MIDDLE			111			111				TO ONE OF THE SEVEN GROWD
8/	1850	ENTERS BOTTOM			111			111			40,	40' LEBS.
8	8600	UPPER END			111			11/1			34.	
LE S		MIDDLE			11/			///				
ટ્રત	2300	ENTERS BOTTOM	>	<b>→</b>	111			111			40'	

FOR ADDITIONAL LEGS USE OTHER SHEETS

CHESMAVFACENGCOM REPORT FPO-1-84(30), SPECIFICAL

A ERWATER INSPECTION REPORT."

SHEET 1 0F 3

MOORINGN	MOORING NO. FM-21 CLASS: BB	_ CLASS	7	88	01	CATION	HARBO	R IS	Chal	SAU	LOCATION: HARBOR ISLAND SAN DIE 60 LAT: 33 43185 " LONG: 117 1056.1" W
BUOY TYPE.	BUOV TYPE: [ES TOP (12) DANA CHOR SIZETIYPE: NI	MACH CH	IOR SIZI	E/TYPE:	4	Y	××	TEA DEI	PTH:	,0	WATER DEPTH: 40' VISIBILITY: 5' BOTTOM TYPE SILT/HUD
DATE: 27	JULY 84 EN	GINEER	-IN-CHA	RGE:J	. 4	140	euta	3	JIVERS	SAK	DATE: 27 JULY 84 ENGINEER IN CHARGE: J. A. THORUTON DIVERS: SAKO/PHELPS (1315-1248 HES)
						CONDITION	TION				
VO3	COMPONENTS	GAUGE	LINK	SIN	SINGLE LINK %	* *	DOG	DOUBLE LINK %		DEPTH	COMMENTS
			LENGTH	+06	+08	-08	÷06	80+	08		
	SEE SHEET 10f 3										
AWQ											
ядн											
٨٥١											
ne		 						<u> </u>			
	NEAR BUOY										
RISER	MIDDLE										
	NEAR GRD RG										
GRO	GROUND RING										
2000	UPPER END	2/2"	15."	1			///			38'	
LÉG	MIDDLE			11/1			/1/2				
2300	ENTERS BOTTOM			111			<u> </u>			40.	
GROUND	UPPER END	_		11			Ž			36	
LEG NO 6	MIDDLE			11			1				
2700	ENTERS BOTTOM	_		111			11/1			40	
26200 26200	UPPER END	_		111			1/1/			36'	
LEG	MIDDLE	_		11/1			1				
275°	ENTERS BOTTOM		≥	11/1			1			40,	

CHESNAVFACENGCOM REPURT FFU-1-84(3U,,

FOR ADDITIONAL LEGS USE OTHER SHEETS

"ERWATER INSPECTION REPORT."

W

SHEET 2 OF

GROUND         MIDDLE           NO.         ENTERS BOTTOM

CHE SNAVE ALENGUE ERPTON: PPO-1-84(30), U.

SENWATER INSPECTION REPORT."

<u>Buoy</u>. This is a 12-foot-diameter peg-top buoy with a 4-foot freeboard. It has two wooden fenders. The upper is in good condition, but the lower is completely deteriorated. Two wooden chafing strips on the buoy's top deck are in good condition. There is a light coating of rust on the buoy's sides.

<u>Riser Chain Subassembly.</u> The riser chain is in good condition with single- and double-link measurements all greater than 90 percent. There is about 2 inches of marine growth on the chain. The ground ring was located at a depth of 28 feet.

<u>Anchor Chain Subassemblies</u>. Most sections of the four subassemblies are in good condition. However, the lower sections of subassemblies A and C were measured to be between 80 and 90 percent of the original 2 1/2-inch wire diameter. Each of the subassemblies was visible for about 20 feet before it entered the bottom.

<u>Cathodic Protection</u>. Continuity wire was observed on all legs, but no chain anodes were visible. Underwater voltmeter readings measured the cathodic protection to be between -1.01 volts at a buoy anode to -.64 volts on anchor chain subassembly C.

<u>Conclusions/Recommendations</u>. Due to the 80 to 90 percent measurements on two of the ground legs, this buoy is considered to be in fair condition and should be downgraded to a Class C mooring.

MOORING NO. FH-48 CLASS. B LOCATION NAVSTA SANDIEGO HARBOR LAT. 32 40 55. 474 ONG. 11708 30.0 W	NI WATER DEPTH: 40' VISIBILITY: 1' BOTTOM TYPE SILT / HUD	DATE: 28 SULY 84 ENGINEERIN CHARGE J. A. THORUTON DIVERS: HAND PHELPS
MOORING NO: FH-48 CLASS: B	BUOY TYPE (EG TOP (12 DIM) ANCHOH SIZE TYPE. N.Z.	DATE: 28 JULY 84 ENGINEER IN CHARGE 5

						COND	CONDITION				
000	COMPONENTS	GAUGE	LINK	NIS	SINGLE LINK %	% %	DOO	DOUBLE LINK %		<b>D</b> ЕРТН	COMMENTS
			LENGTH	<b>6</b>	ŝ	- 08	÷ 06	+08	-08		
	10P-24 PASKE, 5"								C.P.S.		BUDY HAS 4 OF FREEBOARD AND A
	SPIDER IN SHOKERS)	<u> </u>						ANDRE -1.01	-1.01		NAVIGATION LIGHT ON TOP. 17
<b>₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽</b>	3"4" PEAR LWK (4)										HAS TWO WOODEN FENDERS: THE
_	Витан-3%" Детясн										VAPER IS IN GOOD CONDITION
_	3 DETACH										BUT THE LOWER IS COMPLETELY
	NEAR BUOY	24 "	12,77	100	-		11/				DETERIORATED. THE WOOD
RISER	MIDDLE			100			11/1				CHAFING STRIPS ARE IN GOOD
	NEAR GRD RG	<b>→</b>	<b>→</b>	111			11				CONDITION. LIGHT RUST ON BLOY
GRC	GROUND BING									28,	SIDES, CHAIL HAS 2" OF HARINE
BRNG	UPPER END	2%	15,	111			111		-62		GROWTH, FROM GR. TO EACH OF
LEG	MIDDLE			11/		_	111				FOUR CHAIN LEGS - 4"NACO
010	ENTERS BOTTOM			1/1/				1111	87		DETACH, 21/2" END LINK, AND
BRUK GROUND	UPPER END			1			111		64		314" DETACH.
LEG	MIDDLE			3			1				LEGS VISIBLE FOR 20 BEFORE
080	ENTERS BOTTOM			1			111		-,65		CHAIN ENTERS BOTTOM THEE
6804ND	UPPER END			11			111		64		15 CONTINUITY CABLE ON EACH
LEG	MIDDLE			1			1/2				LEC BUT NO ANODES WERE
1700	ENTERS BOTTOM	>	<b>-</b>	///				1	64		NOTED.
OR ADDIT	FOR ADDITIONAL LEGS USE OTHER SHEETS	THER SH	EETS								SHEET 1 OF 2

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MOERWATER INSPECTION REPORT."

CHESMANEACENGUM REPORT FPU-1-84(30), "SAME LIES TEL

DORINGI	MOORING NO. FH-48 CLASS.	CLASS		B	001	ATION	NAVST	K	90 DI	(68)	LOCATION MASTA SAN DIES HAR BIRLAT 32 40'55. 9M. CONG. 117" OF 32.0 W
JOY TYPE	BUOY TYPE PEG TOP (12 DIMITANCHOR SIZE ITYPE: NI	MA ANCH	IOH SIZE	/TYPE:_	4	11	× ×	TER DE	PTH	-04	WATER DEPTH: 40' VISIBILITY: 1' BOTTOM TYPE SILT /HUD
ATE: 2	9 5014 84 EN	JGINEER	-IN-CHA	RGE	5.4.	THOR	NTON		DIVERS	HA.	DATE: 28 SULY 84 ENGINEER IN CHARGE. J. A. THORNTON DIVERS. MANN PHELPS
						CONDITION	TION				
Ō	COMPONENTS	GAUGE	X N	SING	SINGLE LINK %	%	DOUB	DOUBLE LINK %		DEPTH	COMMENTS
		1	LENGTH	+06	+ 08	-08	+06	+08	- 08		
335	HEET 1 05 Z										
AWG											
HAF				<del> </del>							
1 40	1 AOI										
nя											
	NEAR BUOY										
RISER	MIDDLE			-	-						
	NEAR GRD RG						-				
GR	GROUND RING			-							
BRUG	UPPER END	1/2"	15"	250	-		111		67		
LEG	MIDDLE			3	-	-	///				
138°	ENTERS BOTTOM	1	1	111			//	1	-,69		
GROUND	UPPER END							_	_		
LEG	MIDDLE										
90.0	ENTERS BOTTOM										
ONIFOGS	UPPER END										
LEG	MIDDLE										
۱. ۲	ENTERS BOTTOM										
OR ADDIT	FOR ADDITIONAL LEGS USE OTHER SHEETS	THER SH	HEETS								SHEET 2 OF 2

UNESDAMENDE OF NEPURT PRO-1-84(30), OF COMPANY OF COMPANY OF THE PROPERTY OF T

<u>Buoy</u>. This is a 16-foot-diameter non-riser (telephone type) buoy with a 50-inch freeboard. It has a single wood chafing strip, in good condition, and a single wood fender with about 20 percent missing. The buoy's sides are covered with a light coating of rust.

Anchor Chain Subassemblies. The lower sections of subassemblies A and D were measured to be between 80 and 90 percent of original wire diameter. Other measurements were greater than 90 percent.

<u>Cathodic Protection.</u> Anodes were found attached to three of the four sub-assemblies and lying on the bottom. Two of these zincs were measured to be 24 inches by 8 inches by 8 inches. Underwater voltmeter readings measured the cathodic protection to be between -.83 and -.80 volts.

<u>Conclusions/Recommendations</u>. Due to the 80 to 90 percent measurements of the chain subassemblies, this mooring is in fair condition and should be downgraded to a Class C mooring.

CHESNAVEACENGCOM REPORT FP0-1-84(30), CA STATE

CHESNAVPACENCE ALFORT FPU-1-84(30),

JOY TYPE:	BUOY TYPE: NO - E15 ER	ANCH	OR SIZ	ANCHOR SIZE/TYPE:	- 1	NI	*	ATER DE	EPTH:	38,	WATER DEPTH: 38 VISIBILITY: 1 BOTTOM TYPE: SILT /HUD
ATE: 28	JULY 84 EN	IGINEER	·IN·CH/	RGE: 1	8	THON	2VT0	3	DIVERS	MA	DATE: 28 JULY 84 ENGINEER IN CHARGE: J. A. THORNTON DIVERS: MANIN/PHELPS (1129 - 1213 HRS)
						CONDITION	TION				
COM	COMPONENTS	GAUGE	- X	SIN	SINGLE LINK %	× ×	DOG	DOUBLE LINK %	* ×	DEPTH	COMMENTS
		3176		÷	ŝ	- 08	ŝ	\$00	-08		
_	SEE SHEET 1 OF 1								CPS		
_											
АН УО											
og.											
	NEAR BUOY										
RISER	MIDDLE										
<b>-</b>	NEAR GRD RG										
GRO	GROUND RING										
	UPPER END	1%"	" <i>SI</i>	111			111		-,83	10,	
LEC	MIDDLE			111			111			12,	
_	ENTERS BOTTOM	>	$\rightarrow$	111				1/1	-83	158	
GROUND	UPPER END										
LEG	MIDDLE										
	ENTERS BOTTOM										
0.00	UPPER END										
LEG	MIDDLE										
	ENTERS BOTTOM										

<u>Buoy</u>. This is a 12-foot-diameter peg-top buoy with a 4-foot freeboard. It has two double fenders near the top and two double fenders near the bottom, all four in good condition. There is a large dent on top of the buoy.

<u>Riser Chain Subassembly</u>. The riser chain is in good condition with all measurements greater than 90 percent of original wire diameter. The ground ring is lying on the bottom at a depth of 40 feet.

Anchor Chain Subassembly. All four subassemblies enter the bottom just below the ground ring.

<u>Cathodic Protection</u>. Underwater voltmeter readings measured the cathodic protection to be between -.79 volts on the riser to -.74 volts on the top link of anchor chain subassembly B. No anodes were visible.

<u>Conclusions/Recommendations</u>. This mooring is in satisfactory condition for continued use as a Class B mooring.

MOORING NO. FM-50 CLASS: B	LOCATION: NAISTA SAN DIEGO HARBOR, AT, 32 40 1/4.7"/LONG: 117'08/6.3"
BUOV TYPE PEE TO P(150MM) ANCHOR SIZE TYPE:	BUOY TYPE PEE TOP (12 DIM) ANCHOR SIZE ITYPE: NI WATER DEPTH: 40 VISIBILITY: 1 BOTTOM TYPE: SILT / HUD
DATE: 28 JULY 84 ENGINEER IN CHARGE: J.	DATE: 28 JULY 84 ENGINEER IN CHARGE: J. A. THORNTON DIVERS: MANN/PHELPS

Q	10000				COND	CONDITION		Г		
2		LINK	ž 	SINGLE LINK %	% X	noa	DOUBLE LINK %		рертн	COMMENTS
	=	LENGTH	÷	\$0	- 98	÷	\$0÷	-08		
$\vdash$								Spers		Broy HAS 4 FREE BOARD. Two
SPICE 24 SPIDENS										WOOD FENDERS NEARTHE TOP AND TWO
A 2/2" PEAR(#)										WEAR THE BOTTOM ARE IN
Estray-Sterney, 25										GOOD CONDITION. LARGE DENT
BAC, 4 WARD DETACH										IN TOP OF BUDY AND CHAFIUG
	2 1/2	15"	Sist			///		66:-	.8	BAIL.
_			11/1			111		-77 22	72,	ACCE ISORIES BETWEEN THE
NEAR GRD RG	<b>→</b>	<u>→</u>	111			111		7.	37,	- 7 37 RISER AND GROOD RIDG -
	5"	1,71 2	4510	IQ 3	XIL MSIDE DIAMETER	EK			46'	8"DETACH, 212" BLIOK, 21/2"
								56-		C LINK, AUD 4" NACO DETACH.
ENTERS BOTTOM										GROWND RING ON BOTTOM, ALL
								J-,74		LEGS ENTER THE BOTTOM
										SVST BELOW THEG.R.
ENTERS BOTTOM										
								75		LEG DHAS AN OUT BOUND
										BEARING OF 3600 AND A CPS
ENTERS BOTTOM	_		    							READING OF - 79 VOLTS

FOR ADDITIONAL LEGS USE OTHER SHEETS

CHESNAVFACENGCOM REPURT FPU-1-84(30),

REPORT."

SHEET 1 OF 1

<u>Buoy</u>. This is a 12-foot-diameter peg-top buoy with a 4-foot freeboard. It has two wood chafing rails and two wood fenders, all in good condition. Little rust was observed. This buoy is in good condition.

<u>Riser Chain Subassembly</u>. The riser chain is in good condition with all singleand double-link measurements greater than 90 percent of original wire diameter. The ground ring is in good condition at a depth of 35 feet.

Anchor Chain Subassembly. The four chain subassemblies are in good condition. About 10 feet of each leg was visible before they entered the bottom.

<u>Cathodic Protection</u>. Continuity wire was observed on the upper portion of each leg, but no anodes were visible. Underwater voltmeter readings measured the cathodic protection to be -.84 volts on all four subassemblies.

<u>Conclusions/Recommendations</u>. This mooring is in satisfactory condition for continued use as a Class B mooring.

URESMANCE GOOD REPORT FP0-1-84(30), 156.

VIVE							1					7
	BUOY TYPE: EG TORIZ DIMANCHOR SIZE/TYPE:	3	CHO	R SIZI	E/TYPE		NI	'A'	ATER O	WATER DEPTH:		38 VISIBILITY: I' BOTTOM TYPE SILT / HUD
TE: 28	DATE: 28 JULY 84 ENGINEER IN CHARGE: J. A. THORUTON	VGINE	ER-IN	∳.CHA	RGE	S. A.	4	EUTa	2	DIVERS	GR	DIVERS GRIFFILD HIREDING (1412-1559 HES
			-				CON	CONDITION				
OS	COMPONENTS	GAUGE		T IN	SIN	SINGLE LINK %	% XZ	nod	DOUBLE LINK %	NK %	рертн	COMMENTS
		36		ENGTH	÷ 06	â	-08	æ	\$	-08		
ToP.3	TOP. 3 PODEN 234"		-							CPS		BUON HAS 4 FREE BOARD TWO
SPn	SPIDER 34" PRINC(2)											WOOD CHAFING RAILS AND TWO
BOTTON	BOTTON . 2 % "DEMCH		-									WOOD FEUDLES, ALL GOOD
2%	3% PEAR 25 DETREN		-									CONDITION. BUNY SIDES (W
												GOOD COUDITION,
	NEAR BUOY	2	4,2	3	234 125 111			111				ALCESSORIES BETWEEN RISER
RISER	MIDDLE				131			1/1				AND GROWND RIUS - 2/2"8
	NEAR GRD RG	>		5	1			111				40K, 215 C. LINK, 3 15" NACO
GRC	GROUND RING	4,	_	1799	125	90		PIAMETER			35	3s DETACH.
	UPPER END	234	7	42	1			11/		-,84		ABOUT 16' OF EACH LEG
LEG	MIDDLE											VISIBLE BEFORE THEY
NO. A	ENTERS BOTTOM				111			11/1	j		38	EVTER THE BOTTOM. CPS
GROUND	UPPER END				11			///		84		CONTIONITY WIRE OBSERVED
LEG	MIDDLE											OWLEGS BUT NO ANODES
	ENTERS BOTTOM	_			111			111			38	WERE VISIBLE
9	UPPER END				11/			11/		89		
LEG	MIDDLE											
נ פ	ENTERS BOTTOM			,	1	_	_	/				

CHESNAVFACENGOM REPORT FPU-1-84(3

BUOY TYPE	BUOY TYPE: FEG TOP	ANC	HOR SI	ZE/TY)	نن	ANCHOR SIZE/TYPE:		WATER	DEPTH	38	WATER DEPTH: 38 VISIOUITY, 1 COTTON SAT MILE
											SOLION LYPE
DATE: <b>28</b>	JVLY 84 EI	NGINEE	R-IN-CF	ARGE	5	7.74	ber.	704	_ DIVE	RS GR	DATE: 28 JULY 84 ENGINEER-IN-CHARGE: J. A. THORUTON DIVERS, GRIFFIN HARDING (1412-1559 HES)
						NOS	CONDITION				
100 100	COMPONENTS	GAUGE	LIN		NGLE	SINGLE LINK %	la L	DOUBLE LINK %	INK %	DEPTH	H COMMENTS
		,	LENGTH	÷	÷	8	÷	ė	8	L	
	SEE SHKET ( OF 2								STS STS		
MQ											
ядн								_		_	
YOU				Щ				_			
18								_	_	L	
	NEAR BUOY		_	_		_	_	_	_		
RISER	MIDDLE							_			
	NEAR GRD RG							_			
GRO	GROUND RING			<u> </u>	_	_	L	_		$\perp$	
BRUG	UPPER END	2%	1,7,7	13		_	13		487	14	
CHOCIND LEG	MIDDLE	1		_				_	1	<del></del>	
180°	180 ENTERS BOTTOM	>	>	13			1/1		_	361	
CBOIIND	UPPER END			_		_		L	_	1	
LEG	MIDDLE						_	_	_		
į	ENTERS BOTTOM				_			_	L		
3711,000	UPPER END								_		
LEG	MIDDLE				_		_				
	ENTERS BOTTOM										

# MOORING P-1

Buoy. This is a 10-foot-diameter peg-top buoy with a  $3\ 1/2$ -foot freeboard. It has heavy rust on the top tension bar padeye. The buoy has two wooden fenders (the lower 80 percent deteriorated) and a wood chafing strip about 20 percent deteriorated. There is moderate rus, on the buoy sides.

<u>Riser Chain Subassembly.</u> Double-link measurements of the riser chain were all between 80 and 90 percent of original wire diameter. The riser is in fair condition.

Anchor Chain Subassemblies. Two of the subassemblies are in good condition with measurements of the visible sections all greater than 90 percent. Double-link measurements of subassembly A, however, were between 80 and 90 percent. The subassemblies enter the bottom 15 to 20 feet from the ground ring.

CHESNAVEALEHOURH MEROKI FPO-1-84(30,,

# MOORING P-2

 $\underline{\text{Buoy}}$ . This is a 10-foot-diameter peg-top buoy with a 3 1/2-foot freeboard. There is heavy rust on the top tension bar padeye. The buoy has a wood chafing strip in good condition and two wood fenders, the lower of which is severely deteriorated. Moderate to heavy rust covers the sides of the buoy.

Riser Chain Subassembly. The riser chain is in good condition with all single-and double-link measurements greater than 90 percent of original wire diameter. The chain has 2 to 3 inches of marine growth. The riser appears to go to a 12-inch by 12-inch "H" pile with 1-inch flanges. However, the connection between the riser chain and the pile was not measured.

Anchor Chain Subassemblies. None installed. Riser is directly attached to a stake pile.

<u>Conclusions/Recommendations</u>. This mooring is in satisfactory condition for continued fleet use. The buoy's lower fender should be replaced at the earliest practical time.

MOORING	MOORING NO.: P.2	_ CLASS:_		U	100	NAS NORTH ISLAND LOCATION: SAN DIESO HARBOR	59,	NAS NORTH ISLAND SAN DIESO HARBOR	RTH.	1564 1AEB	00 012 LAT 32 92 106 11 LONG: 117 10 439 W
BUOY TYPE	BUOY TYPE: PEG TOP (10 DIAM) ANCHOR SIZE ITYPE:	H) ANCH	10R \$12E	:/TYPE:_	M	7	WA	TER DE	HH.	40,	WATER DEPTH: 46 VISIBILITY: 1 BOTTOM TYPE: 54T/HUD
DATE: 2'	DATE: 27 JULY 84 ENGINEER-IN-CHARGE: JA THORUTON	VGINEEF	I-IN-CHA	RGE: J	A	HORA	7701		JIVERS	541	DIVERS: SAKO/PHELPS (0951-1019 HES)
						CONDITION	NOI				
3	COMPONENTS	GAUGE	I I	SING	SINGLE LINK %	*	DOUB	DOUBLE LINK %		DEPTH	COMMENTS
		,	LENGTH	÷06	\$0¢	-08	+06	\$0+	-08		
# TOP.2	TOP-2 %" PADETE, 34"										BUDY HAS 3'-L" FREEBOARD AND
AWG SP	SPIDER 2 SPIDER (2)										HEAVY RUST ON TENSION BAR
APT BOTTON	A BOTTON 34 NAW DETREM										PADEYE, WOOD CHAFING RAIL
7/2	8 B LIDK, 3/4"										IN GOOD CONDITION. TWO WOOD
7() NB	ОЕТЯСН										FENDERS THE LOWER SEVERLY
	NEAR BUOY	2341	12,2"	2,2 11			111			, 8	DETERIORATED. HODERATE TO
RISER	MIDDLE			111			11/			23	HEAVY RUST ON SIDES. CHAIN
	NEAR GRD RG	$\rightarrow$		111		,	100			401	HAS 2-3 OF MARWEGROWTH.
GR(	GROUND RING										RISER APPEARS TO GO TO A
delicac	UPPER END										12"x 13" H PILE WITH I'FLADSES.
י בנס י בנס	MIDDLE										HOWEVER, NO CONVECTION
¥	ENTERS BOTTOM										WAS VISIBLE
GROUND	UPPER END										
LEG	MIDDLE					_					
9.0	ENTERS BOTTOM										
divinous	UPPER END										
LEG	MIDDLE										
NO. C	ENTERS BOTTOM										

JESNAVEACENGUM REPORT FF0-1-84(U

FOR ADDITIONAL LEGS USE OTHER SHEETS

SHEET 1 OF

# MOORING T-1

 $\underline{\text{Buoy}}$ . This is a 10-foot-diameter drum-type buoy with a 2 1/2-foot freeboard. It has a combination wood fender/chafing strip covering the junction of the top deck and sides. This combination is about 20 percent deteriorated. There is also a lower wood fender which is about 40 percent deteriorated. The buoy has moderate to heavy rust on its sides.

<u>Riser Chain Subassembly</u>. The riser chain is in fair condition with measurements between 80 and 90 percent of its original? /4-inch wire diameter. The ground ring is on the bottom at a depth of 38 feet and has some ground leg chain on top of it.

Anchor Chain Subassemblies. The 2 1/4-inch anchor chain was also measured to be between 80 and 90 percent and is in fair condition. The anchor of subassembly B is visible on the bottom about 55 feet from the ground ring.

<u>Conclusions/Recommendations</u>. This mooring is in poor condition and unsatisfactory for fleet use. The anchor must be reset if this mooring is to be used for anything other than the fuel cells now moored to it.

CHESNAVEACENSON REPORT FPO-1-84(50),

<b>W</b> 00	MOORING NO.	J-1	CLASS	á	E	ro 	LOCATION: BALLAST PT. SUB BASE	Balle	ST P1	5.16	3 843	5E LAT 32 41 1223 / LONG: 1170 44 45.6"
<b>B</b> U0)	Y TYPE:	BUOV TYPE: DRUM (10'DIAM) ANCHOR SIZE/TYPE:	ANC	HOR SIZ	E/TYPE		NI	š	WATER DEPTH: 38	EPTH:	38'	VISIBILITY: 5' BOTTOM TYPE:
DAT	E: 26	DATE: 26 JULY 8A ENGINEERIN CHARGE: J. A. THORNTON	IGINÉEF	N-IN-CH/	ARGE: 1	7. 4.	1.HOR.	WTOX		DIVERS	54	DIVERS: 5AKO (PHELPS (0917-1039 HRS)
L							CONDITION	TION				
	<b>€</b>	COMPONENTS	GAUGE	N I		SINGLE LINK %	* *	noa	DOUBLE LINK %	* ×	DEPTH	COMMENTS
				LENGTH	ŝ	\$	8	ŝ	ğ	8		
1	100-1	TOP-24 PADEYE 24										BUDY HAS 2'L"FREE BOARD. HAS
AWO	54,	SHACKLE, 3"YEAR										COMBINATION WOOD FENDER!
ядн	₹ TO	ВОТТОН З ИМО БЕЛЖИ										CHAFING STRIP CODERLAS
٨٥	E/2	234" DETACH										SJOIS OUR YNJY GET TO LOITENYE
na												DETERIORATION ABOUT 20%, LOWER
		NEAR BUOY	,, ħ, C	7,81		1.7			1.71		,8	FEUDER 40% DETERIORATION.
RISER	E.	MIDDLE				NV			111		20'	MODERATE TO HEAVY RUST ON
		NEAR GRD RG	$\rightarrow$	$\rightarrow$		111			111		35'	SIDES, ACCESSORIES BETWEEN
	GRO	GROUND RING	334"	x 18"		JC 3	USINE DAMEREE	2			38	RISER AND G. R 134" DETACH
100	BRUG	UPPER END	214"	24" 135"		11.72			11.14		38,	4" WARD DETARA.
5 44	3 6	MIDDLE				111			111		38,	
ŠÕ	100 A	ENTERS BOTTOM										GOT GO WARD DEL ZHES HTIW
Z 8	BENG	UPPER END				1.11			111		38	
<u> </u>	LEG	MIDDLE				1			111		38'	ON THE BOTTON ABOUT SS'
8	002	ENTERS BOTTOM										FROM AWY.
00	BENG	UPPER END				111			11/1/		38,	MUDRING USED FOR SUBJENIER
LEG		MIDDLE				1111			111		38,	BREAST OUTS AND SLUDGE
540	3500	ENTERS BOTTOM	$\rightarrow$									DONUTS,
FOR	ADDITI	FOR ADDITIONAL LEGS USE OTHER SHEETS	THER SI	HEETS				l				SHEET OF

#### MOORING T-2

<u>Buoy</u>. This is a 10-foot-diameter drum-type buoy with a 3-foot freeboard. The top jewelry is moderately pitted and corroded. It has a combination chafing strip/fender covering the junction of the top deck and sides and a lower fender which is about 75 percent deteriorated.

<u>Riser Chain Subassembly</u>. The 2 1/4-inch riser chain is in fair condition due to double-link measurements between 80 and 90 percent of original wire diameter. The ground ring was located at 35 feet, close to the bottom.

<u>Anchor Chain Subassemblies</u>. The three subassemblies enter the bottom just below the ground ring and were not visible for inspection.

<u>Conclusions/Recommendations</u>. This mooring is in satisfactory condition for continued use as a Class E mooring.

UNESNAVFACENGOM REPORT FPU-1-84(30).

MOORING NO.:	MOORING NO.: T-2 CLASS: E	CLASS:_		E		LOCATION	BALL	AST	74	3/18/1	33241
BUOY TYP	אמערון כום חול	ANCH	OR SIZE	:/TYPE		7	<b>*</b>	WATER DEPTH:_	HT.	2	VISIBILITY: 3 BOTTOM TYPE://pub/2/2/
DATE: 26	DATE: 26 JULY 84 ENGINEER-IN-CHARGE: J.A. THORNTON	NGINEER	IN CHA	RGE: Ŭ	, H.	THOP	070		DIVERS	SAI	DIVERS: SAKO/PHELPS (0924 - 1010 HRS)
						CONDITION	TION				
3	COMPONENTS	GAUGE	LINK		SINGLE LINK %	% УІ	DOO	DOUBLE LINK %		<b>DEPTH</b>	COMMENTS
			LENGTH	è	\$	-08	÷	+08	-08		
_	TOP-215 PADEYE 35"										BUDY HAS 3 FREE FOR A CO. TOP
AWC S	SHACKLE 35" PEAR										SEWELRY PITTED AND
_	BOTTOM- 1/2" DETACH										CORPODED, COMBINATION WOOD
	214 B LINK 3/2"										FENDER CHAFING STRIP COVERIUG
	DETACH										JUNGTUN OF TOP DECK AND SIDES.
	NEAR BUOY	2 14"	13,2	111				111		8'	LOWER FEDDER ABOUT 75%
RISER	MIDDLE			100				111		20	DETECIORATED.
	NEAR GRD RG	ightarrow	$\rightarrow$	111				111		33'	RISER TO G.R. ACCESSORIES-
GR	GROUND RING	4"×	18,1	18"18106	. 1	DIAMET	٦			35	214' B HOK, 24" DETACH, 4"
6006	UPPER END										NAWO DETACH. GROUND RIDG
LEG	MIDDLE										LIES ON BOTTOH. AUCESORIES
0000	ENTERS BOTTOM										BETWEEN G. R. AUD EACH LEG -
SROUND GROUND	UPPER END										4"NACO DETACH, 234" DETACH
LEG	MIDDLE										34"PEAR LINK, 234" DETACH.
1800	ENTERS BOTTOM										LEGS BURY AT HARDKINEE.
Beri	UPPER END						ĺ				HOOPING USED FOR SUBTEMBER
LEG	MIDDLE										BEENSTOUTS AND SLUDGE
3500	ENTERS BOTTOM										DONUTS
FOR ADDIT	FOR ADDITIONAL LEGS USE OTHER SHEETS	ОТНЕЯ SH	EETS								SHEET / OF /
									1	į	

# MOORING J

 $\underline{\text{Buoy}}$ . This is a 10-foot-diameter peg-top buoy with a 3 1/2-foot freeboard. It has moderate to heavy rust on its top jewelry and moderate rust on its sides. The buoy has a wooden chafing strip and two wood fenders, all in good condition.

<u>Riser Chain Subassembly</u>. The 2 1/2-inch riser chain is in good condition with all measurements greater than 90 percent of original wire diameter. The ground ring is in good condition and was located at a depth of 28 feet.

Anchor Chain Subassemblies. All three subassemblies enter the bottom a few links from the ground ring. The visible links were measured to be greater than 90 percent.

 $\underline{\text{Conclusions/Recommendations.}} \quad \text{This mooring is in satisfactory condition for continued use as a Class D mooring.}$ 

JULINAVERCENCOM REPORT FPU-1-84(LU).

MOORIN	MOORING NO:	CLASS		4	100	:ATION:	JFK !	PIER	14.95	NORT	LOCATION: JFK PIER NAS NORTH ISLETAT 32 42 486 MONG 117 1132.5" W
BUOY TY	BUOY TYPE: $\{ {\it EGTOP(10'DIAH)} \}$ anchor size ${\it TYPE}$ :_	11) ANCH	OR SIZE	:/TYPE:	ME		WA	TER DE	PTH	38,	WATER DEPTH: 28" VISIBILITY: 1" BOTTOM TYPE: 5/LT/HUD
DATE: Â	27 JULY 84 EN	JGINEER.	IN-CHA	RGE:	A.	THOX	eNT0	3	DIVERS	SAK	DATE: 27 JULY 84 ENGINEER-IN-CHARGE: J. A. THORNTON DIVERS: SAKO PHELPS (0716-0742 HRS)
						CONDITION	TION				
	COMPONENTS	GAUGE	LINK	SINC	SINGLE LINK %	* *	DOUE	DOUBLE LINK %		DEPTH	COMMENTS
		1		ès	÷08	8	ġ,	ġ.	-08		
	TOP.3" PADEYE, 3/2"					-					BUOY HAS 36" FREEBOARD HAS
	SPIDER, 3" SPIDER	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \						_			MODERATE TO HEAVY RUSTING
ВАН	21/2" PEAR(4)										OF TOP JEWELRY, HODERATE
	BOTTOM-34 DETACH 21										RUST ON SIDES, WOOD
	PEAR, 2 4" DETACH										CHAFING STRIP AND TWO
	NEAR BUOY	2%"	15"	111		-	///			1	WOODEN FENDERS IN GOOD
RISER	MIDDLE			1			115			151	CONDITION.
	MEAR GRD RG	$\rightarrow$	$\rightarrow$	111			110			751	LEGS ENTER BOTTOMAFTER
9	GROUND RING	4/2"	1,8/x	4514	EDIA	WOLDE DIAMETER	- Z			187	FIRST FEW LIDKS.
BRNG	G UPPER END			2"						7,87	,
LEG	MIDDLE										
0000	ENTERS BOTTOM										
BROUND	C UPPER END			24.71						187	
LEG	MIDDLE										
1700	ENTERS BOTTOM										
RENG	Y UPPER END			11/1/2		7	$\dashv$			28,	
LEG	MIDDLE										
340	ENTERS BOTTOM										
FOR ADI	FOR ADDITIONAL LEGS USE OTHER SHEETS	THER SH	EETS								SHEET OF

### MOORING K

Buoy. This is a 10-foot-diameter peg-top buoy with a 3 1/2-foot freeboard. It has a wooden chafing strip and two wood fenders, all in good condition. The buoy has a slight list and light rust on its sides.

<u>Riser Chain Subassembly</u>. The riser chain is in good condition with all measurements greater than 90 percent of its original wire diameter. The ground ring was located at 35 feet and is in good condition.

Anchor Chain Subassemblies. The visible sections of the four chain subassemblies are in good condition with all measurements greater than 90 percent.

<u>Cathodic Protection</u>. Continuity wires were noted on all visible sections of the ground legs, but no anodes were observed. Underwater voltmeter readings measured the cathodic protection to be between -.88 volts at a buoy anode to -.65 volts at the upper end of anchor chain subassembly D.

 $\underline{\text{Conclusions/Recommendations}}$ . This mooring is in satisfactory condition for continued use as a Class D mooring.

CHESNAVFACENGCOM REPORT FPO-1-84(30), "SAN DIEGO FLEET MOORING UNDERWATER INSPECTION REPORT."

UNESNAVEACENGOM REP. -1 PO-1-84

DATE: 27 JULY 84 ENGINEER-IN-CHARGE: J. A. THORNTON  COMPONENTS SIZE LENGTH  GAUGE LINK SINGLE LINK % DOUB SIZE LENGTH  90+ 80+ 80- 80+ 80		ER-IN-CHA	HARG	SINGE SINGE	COI SINGLE LINK %	THOR	NTON		DIVER	SAI	DIVERS: SAKO/PHFLPS
<del></del>	1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1	LENG SE LENG S		SINGL	E LIN		MOIT				
	[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]	E LENG		SINGL	E LIN	CONDITION	5				
		LENG		<del></del>	+08	%	000	DOUBLE LINK %	% × ×	DEPTH	COMMENTS
		1 1 2	25		-	- 08	às	+08	-08		
		1 2	7						5025 10475		BUOY HAS 3'6" FREE BOARD, ONE
		3	1 2					AUDDE	-,88		NOOD CHAFING STRIP (TING
		1/2	7								WOOD FENDERS IN GOOD
- SER		1/2									CONDITION. BUOY HAS A
NEAR BUO RISER MIDDLE NEAR GRD		/ 7/	77								SUGHT LICHT AND LIGHT
		•		7			11/			-&	RUST ON 510 ES
NEAR GRD			7	111			11/1			122'	ACCESSURIES BETWEEN
i		$\bigcap$	1	<u>'</u>			111			33,	RISER AUS G. R 2 34" DETACH
GROUND RING	$\eta + [$	4/4" x23"	3,0	3015111	7	DAMETER	TER		-,00	35'	24" EOD LINK 23" B LIDK
UPPER END	272"	1,51	7	11/1/			111		-,75 37'	3.1,	HUM 3 12 MAG DETACH
LEG MIDDLE			//	///			100				
NO. A ENTERS BOTTOM	TTOM		1/1	//			101			40,	CONTINUITY PABLES NOTED
GROUND UPPER END		_	11/1	/			111		-73	-73 37'	ON ALL LEGS BUTNO
LEG MIDDLE			11/1	1			111				ANODES WERE VISIBLE
ENTERS BOTTOM	TTOM		7	111			111			401	
OPPER END			.? 	1.11			11/1		-169	371	
LEG MIDDLE			1/2	\ <u>`</u> a			11/1				
ENTERS BOTTOM	TTOM	$\rightarrow$	<u>'</u>	100			111			40'	

LUCINAL MULUM KEPUKI TEOTE-84(30)

LOCATION: JFK PIER NAS NORH ISLE LAT 32° 42 411 2 MONG: 11731 12.1 12	WATER DEPTH: 40' VISIBILITY: 1' BOTTOM TYPE: SILE (HUD)	DIVERS: SAKO PHELPS		COMMENTS																				SHEET_ 2_0F_2
паду	40,	S. 54		<b>DEP</b> TH											37'		40'							
2478	EPTH:_	DIVER		NK %	98	CPS VOLTS									65									
PIER	ATER D			DOUBLE LINK %	<b>8</b>																			
累	*	UTON	CONDITION	DOC	ż										111	111	111							
CATION	. 7	T HOR,	COND	κ %	-08																			
01	IN	S . A.		SINGLE LINK %	÷08																			
a	E/TYPE	ARGE: 7			÷06										111	111	11.11							
	10R SIZ	-IN-CH/		FINK	LENGTH										15"		$\rightarrow$							HEETS
CLASS	ANCH	IGINEEF		GAUGE	;										21/2		$\rightarrow$							THER S
X	BUOY TYPE: PEG TOP (10 DIAM) ANCHOR SIZE /TYPE.	DATE: 27 JULY 84 ENGINEERIN CHARGE: S.A. THORNTON		COMPONENTS							NEAR BUOY	MIDDLE	NEAR GRD RG	GROUND RING	UPPER END	MIDDLE	ENTERS BOTTOM	UPPER END	MIDDLE	ENTERS BOTTOM	UPPER END	MIDDLE	ENTERS BOTTOM	FOR ADDITIONAL LEGS USE OTHER SHEETS
MOORING NO.:	BUOY TYPE:	DATE: 27		WOO		38	AWC	ЯАН	1 40	UB		RISER		GROI	-		130°		LEG		Civilion	LEG		FOR ADDITE

## MOORING USS MCKEE

This is a Mediterranean type mooring that has no mooring buoys or risers installed. It has four bow and two stern anchor chain subassemblies. Each of the bow subassemblies is attached to a marker (pick up) buoy with a 1 1/8-inch riser chain. Although there are four bow anchor chain assemblies available, McKEE only uses two (see sketch on attached diver report sheet).

Anchor Chain Subassemblies (Bow). These two subassemblies are in good condition with single- and double-link measurements greater than 90 percent of their original wire diameter.

Anchor Chain Subassemblies (Stern). The two stern subassemblies are also in good condition with measurements greater than 90 percent of original wire diameter.

Riser Chain Subassemblies (Marker Buoys). The four marker buoy riser chain subassemblies are in poor condition due to severe corrosion and wear. Most measurements of all four of these riser chains were less than 80 percent of their original 1 1/8-inch diameter.

<u>Conclusions/Recommendations</u>. This mooring is in satisfactory condition for continued use by fleet units. Although the poor condition of the marker buoy chain does not affect the holding capacity of the mooring, this chain should be replaced.

CHESNAVFACENGCUM REPURT FP0-1-84(30), "SAN DIEGO FLEET MOORING UNDERWATER INSPECTION REPORT."

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UNESDAME ALL BANGON MEPOWEL FPU-1-84(30).

MOORIN	IG NO.:	USS MCKE	£ CLASS	BOU	BOW LEGS MED HOURI	65 20 <u>8</u> 00	CATION	BALL	1 154	3.5	08 E	MOORING NO: USS MCKEE CLASS: MED THUR LOCATION: BALLAST PT. SUB BASE LATITATIONG: 1174-043"
BUOY T	YPE:	BUOY TYPE: Alcale	ANC	IOR SIZI	E/TYPE	541/2	PIL	£.5 W	ATER DI	EPTH:_	, 44	ANCHOR SIZE/TYPE: 5/2/6 PILES WATER DEPTH: 44 VISIBILITY: 5 BOTTOM TYPE: 5/11/10/20
DATE:	25 Ju	DATE: 25 JULY 84 ENGINEER IN CHARGE: J. A. THORNTON	NGINEER	-IN-CHA	RGE:	5.4.	7401	RNTE	- 1	DIVERS	SA	DIVERS: SAKO/CICCONE
							COND	CONDITION				
_	COMPONENTS	NENTS	GAUGE	LINK		SINGLE LINK %	¹K %	DOO	DOUBLE LINK %		DEPTH	COMMENTS
			,	LENGTH	÷06	+08	-08	+06	\$	-08		
38												MARANG HAS FOUR MARKER BLOYS
AWQ												ATTACHED TO 4 60W LEGS. MCKEE
ЯАН												VSES ONLY LEGS 2 AND 3
70												50 10
18												MCKEE
	NE	NEAR BUOY										
RISER		MIDDLE										04 03
	¥	NEAR GRD RG										DIVERS DESCENDED OU MAKKEE
	GROUND RING	D RING										BUSYS IAND 4, BUT NO CHAID WAS
		UPPER END	3%"	2["	34 11			1,71			5'	VISIBLE, WHILE INSPECTING
LEG	¹	MIDDLE			11			1/,/			,00	LES 3, DIVERS FOUND ANITHER
j S		ENTERS BOTTOM			11			11			40'	
GROUP		UPPER END			1//			[/:/			.5	DIAMETER AND LINK LENGTH
LEG	1	MIDDLE			1/			1.7			30'	NEASUREHENTS OF THIS CHAIL
) S		ENTERS BOTTOM	$\rightarrow$	$\rightarrow$	\;\;\			/;/			40,	INDICATE THAT THE CHAIDMUST BE
GROUND		UPPER END										ONE OF THE UNUSED LEGS. LANGE
LEG		MIDDLE										SWIVEL TWO DETACH LINKS NOTED IN
<u>.</u>	EN	ENTERS BOTTOM										ABOUT WHIER SEITION OF IXIN 1665
FOR AD	DITION,	FOR ADDITIONAL LEGS USE OTHER SHEETS	THER SI	IEETS		ĺ				 		SHEET 1 OF 4

CHESMAYFACENGOM REPORT - FFO-1-84.

Y TYPE	1000	SMA						00144			•
	Boot Hrs.		HOR SI	ANCHOR SIZE/TYPE:_	ii.	>		AIERD	WATER DEPTH: 68	28	VISIBILITY: 4 BOTTOM TYPE: 5/47
E: 26	DATE: 26 JULY 84 ENGINEER-IN-CHARGE: J. A.	VGINEE	A-IN-CF	HARGE	IA		THURNTON	- 1	DIVERS		
			_			NOS	CONDITION				
3	COMPONENTS	GAUGE	Ě	}	SINGLE LINK %	% XNI	õ	DOUBLE LINK %	NK %	БЕРТН	COMMENTS
	-	17	LENGTH	\$	98	- 98	ş	- 08	-08		
											EACH STEEN LEG CONSISTS OF
											CHAIN, DETACH, AUD SYACKLE
											WHICH PASS THROUGH THE
					_						SHIP'S HAWSE PIPE, CHAID 15
				_							CONNECTED TO DOUBLE STRAWS
	NEAR BUOY										OF 4" SAMPSON DOUBLE BRAID
RISER	MIDDLE										ROPE WHICH IS ATTACHED TO 234"
	NEAR GRD RG										CHAID WHICH FUTERS THE
GRC	GROUND RING										BETTOH.
	UPPER END	234,	12.75	////	_		111			,5/	
CHOUND	MIDDLE			17/1	/		11/			15,	
₹ :	ENTERS BOTTOM			17.14			11/1			28'	
CINIO	UPPER END		_	1.1/			1.11			10,	
LEG	MIDDLE			11.11	,		11/1			15,	
	ENTERS BOTTOM	<del>- &gt;</del>	<del>-</del> >	11/1			///:			28'	
GIAL LOGS	UPPER END										
LEG	MIDDLE										
) C	ENTERS BOTTOM										

A-58

100		DIVERS		SAKO/CICCONE
NOI				
DOL	DOUBLE LIN	LINK %	DEPTH	COMMEN
+06	80+	-08		
				MARKER BUDY RIS
				~
				LORROSION AUD IDE
				THIS DOES NOT AF
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				NOTE IS THAT A !
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	111		5	LESS THAN THE SIN
	111		20'	MENSLYCENTENT (DI
		1911	40,	H PILE CY RISER#1 1
	1	//	10,	WAS MEASURED 13X
		11.1	, 06.	FLHAIGES, NO CLANA
		611	144	BETWELD THE
	17		10,	H 1726 WAS K. 76.
	,	10.1	30,	
		11/1	401	
				SHEI
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7.50 :

UPPER END

MIDDLE

MACKER-LEG LEG NO. 1

GROUND RING

NEAR GRD RG

MIDDLE

RISER

**ENTERS BOTTOM** 

UPPER END

MIDDLE

MARKÉR LEG NO. 2

F PARTICULAR BOUBLE LINK RISER #3 WAS

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76 ' 5 2 1" HWH HINK

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13 16.711

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**ENTERS BOTTOM** 

UPPER END

MIDDLE

MARKER LEG NO. 3

50'B 1842 LAT. 32 91'39. #N LONG: 11714 452"W

MOORING NO: (155 P(CLEE CLASS: PIED FICM LOCATION: BALLAST 17

DATE: 25 JULY 84 ENGINEER-IN-CHARGE: 5. A THERNTON

ANCHOR SIZE/TYPE:

BUOY TYPE. MARKER (4)

BOTTOM TYPE: Siet/Heit

WATER DEPTH: 44 VISIBILITY: 5'

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LENGTH

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COMPONENTS

SINGLE LINK % **8** 

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"SHAPPLE (2)

MARKER BUNS

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UNESNAMBAUTALISM REPORT PPU-1-84(00).

# MOORING USS ELK RIVER

This is a Mediterranean type mooring that has no buoys or risers installed. Each of the two anchor chain subassemblies is connected directly to the moored ship and a stake pile. ELK RIVER was not in the mooring at the time of the inspection, and a crane barge was used to lift part of each leg for inspection. The top 45 feet of each subassembly was inspected by the divers.

Anchor Chain Subassemblies. The two assemblies are in good condition with measurements greater than 90 percent of their original 1/3/4-inch diameters.

<u>Conclusions/Recommendations</u>. This mooring is in satisfactory condition for continued fleet use.

CHESNAVFACENGCOM REPORT FP0-1-84(30), "SAN DIEGO FLEET MOORING UNDERWATER INSPECTION REPORT."

BUOY TYPE:	NONE	ANC	ANCHOR SIZE/TYPE: SPUD PILES WATER DEPTH:	E/TYPE	22	71.1	₹ 5 <b>%</b>	ATER D	EPTH	3	40 VISIBILITY: 5 BOTTOM TYPE: SIAT/HILD
TE: 26	DATE: 26 JULY 84 ENGINEER IN CHARGE J. A. THORNTON	NGINEEF	I-IN-CH/	ARGE:∑	5.4	1 1400	Vrov		DIVERS	5.9 k	
						COND	CONDITION				
3	COMPONENTS	GAUGE	X		SINGLE LINK %	NX %	Door	DOUBLE LINK %	% ¥	DEPTH	COMMENTS
		<u> </u>		\$	÷08	-08	÷06	+08	-08		
											USSELK RIVER WHS NOT IN
											THE FICORING AT THE TIME
											OF THE INSPECTION. A CRAME
											BARGE KIMS USED TO LIFT
											TO THE SURFACE, EACH OF THE
	NEAR BUOY										TWOLEGS CONSISTS OF 45 OF
RISER	MIDDLE										134" CHAID, 90'OF 334" SAMPSON
	NEAR GRD RG										DOUBLE ARMID, AND ADOTHER
GRC	GROUND RING										45 OF 134" CHAIN.
	UPPER END	1 34"	10%	11			111			, &	ONEY THE TOP 45 OF CHAIN WAS
LEG	MIDDLE			111			111			24'	WYPEUTED DUE TO THE HANDEINE
NO. A	ENTERS BOTTOM			111			111			40,	PROBLEMS INVOLVED IN INLINS
GNITOR	UPPER END			111			111			, 6	MORE SUT OF THE WATER ALD
LEG	MIDDLE			101			111			158	THE KISK OF APPLYING
	ENTERS BOTTOM	$\rightarrow$	>	1111			1111			40,	Excessive l'operat Jumes
Gierro	UPPER END										3N THE STUIN 17265
LEG	MIDDLE										
	ENTERS BOTTOM										

NDERWALL LINDERLITON ALPORT.

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ANNEX B

BUOY SURVEY DATA

# SAN DIEGO CONTROL POINT DESCRIPTION

- Ballast Pnt This control point is a standard 2-inch USC & GS brass disc stamped "ballastpnt." This point is approximately 600 feet east of the Coast Guard Station at Ballast Point and 30 feet north of the edge of the shoreline. The control point is 10 feet from the back edge of a gravel parkir-lot. Swing tie distances from two light poles are Eastpole 78.48 feet and Westpole 45.94 feet. The area is covered with gravel (see Figure 8-1).
- PK Nail A This control point is located on the edge of a street near the bay wherein moorings T-1 and T-2 are located. This is a temporary control point established and designated by the survey team. The control point marker is a nail driven into the ground 57.91 degrees, 85 feet from the Coast Guard Station (see Figure B-1).
- Coast Guard Located approximately 300 feet west of the Coast Guard Station at Monument Ballast Point and 15 feet from the shoreline edge. The control point is marked by a standard USC & GS 2-inch brass disc approximately 10 feet southwest of an old concrete gun bunker (see Figure 8-1).
- Jess This control point is a wooden 2-inch by 2-inch hub and tack with an indentation in the tack. The marker is located at the entrance to the deperming area on the top of a cliff which overlooks this area. It is 20 feet east of the centerline of Rosecrans Avenue (see Figure B-2).
- Deuchars This control point is a wooden 2-inch by 2-inch hub and tack established in the flat storage section at the southern end of the deperming area. It is 12 feet above mean-low-low water (MLLW) and 12 feet west of the shoreline (see Figure B-2).

Hay

- Standard USC & GS 2-inch brass disc stamped "Hay." It is set into the sidewalk on Harbor Island and is located at Harbor Station 58+ 33.4, local system (see Figure B-3).

Harbor Station 68+00 - The lead tack is set in the sidewalk at Harbor Station. "Harbor Station 68+00" is marked with orange paint on the sidewalk (see Figure B-3).

SD 71

- Located at the bay edge of NAS Coronado at the intersection of Tulagi and Inchon Avenues. It is a 2-inch brass disc marked on the street with orange paint and at the bayside edge of the street (see Figure B-4).

SD 72

- Located at the bay edge of NAS Coronado at the intersection of Inchon and Tarawa Avenues. It is a 2-inch brass disc marked on the street with orange paint at the bayside edge of the street (see Figure 8-4).

Columbia Center Flagpole - This is a useful backsite. It is located atop a tall building in downtown San Diego and is the largest flag on the horizon.

For further information regarding control points contact Code 420, PWC San Diego.

FIGURE B-1. BALLAST POINT

FIGURE B.2. DEPERMING AREA

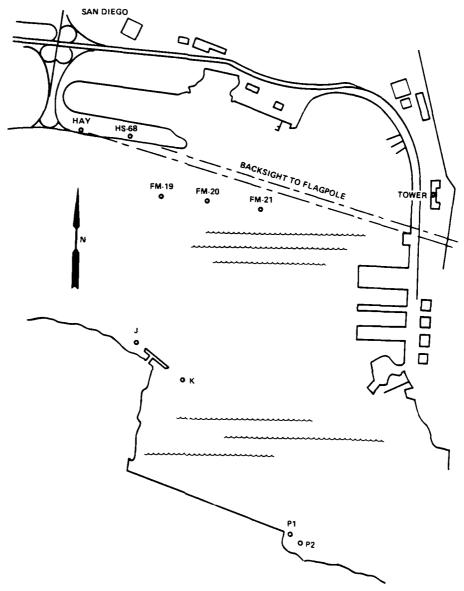


FIGURE B-3. HARBOR ISLAND

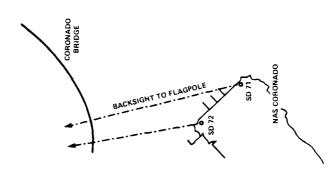


FIGURE B-4. NAS CORONADO AREA

SAN DIEGO SURVEY DATA

BL = Jess to Deuchars Both control points used Columbia Center Flagpole as a reference or backsight.

	Je	Jess	Deuchars	nars		
Buoy	Angle to Backsight	Angle to BL	Angle to Backsight	Angle to BL	Latitude	Longitude
CM-1	88.65°	350,80°	°0′.09	139.50°	32°41'29.80"N	32°41'29.80"N 117°14'15.40"W
DM-3	68.57°	330,72°	349,48°	68.28°	37°41'36.23"N	37°41'36.23"N 117°14'12.52"W
DM-4	53.90°	316.05°	336,77°	55.57°	32°41'39.58"N	32°41'39.58"N 117°14'11.25"W
DM-5	70.50°	332,65°	311.73°	30.53°	32°41'39.70"N	32°41'39.70"N 117°14'16.50"W
9-MO	84.58°	346.73°	330,82°	49.62°	32°41'35,30"N	32°41'35,30"N 117°14'16,80"W
0M-8	83,60°	345.75°	351,25°	70.05°	32°41'34.20"N	32°41'34.20"N 117°14'15.90"W
0M-9	44.78°	306.93°	331,68°	50.48°	32°41'41.50"N	32°41'41.50"N 117°14'10.80"W
DM-11	353.82°	255.97°	301,55°	20.35°	32°41'48.90"N	117°14'15.80"W
9-₩0	30.08°	292,23°	315.27°	34.01°	32°41'44.80"N	32°41'44.80"N 117°14'12,70"W

BL = Ballast Pnt to PK NAIL A Callast Pnt backsight is the Columbia Center Flagpole PK Nail backsight is the Coast Guard Monument

	Longitude	117°14'05.60"W	117°14'04.80"W
	Latitude	32°41'12.30"N	32°41'11.50"N 117°14'04.80"W
it Pnt	Angle to BL	305,29°	313.12° 3
Ballast Pnt	Angle to Backsight	283,20°	291.03°
j] A	Angle to BL	101.04°	105,34°
PK Nail A	Angle to Backsight	197.05°	201,35°
	Buoy	1-1	1-2

 $BL\,$  = SD 68 to Hay Both control points used Columbia Center Flagpole as a backsight.

	89 05	89	Нау	λŧ		
Buoy	Angle to Backsight	Angle to BL	Angle to Backsight	Angle to BL	Latitude	Longitude
FM-19	43,82°	233,27°	22,55°	31,05°	32°43'17.10"N	32°43'17.10"N 117°11'18.40"W
FM-20	21.37°	210,82°	12.28°	20.78°	32°43'16.60"N	32°43'16.60"N 117°11'07.90"W
FM-21	10,65°	200,10°	6.60°	15,10°	32°43'15.50"N	32°43'15.50"N 117°10'56.10"W
P-1	50.47°	239.92°	46.08°	54.58°	32°42'12,10"N	32°42'12,10"N 117°10'47,00"W
P-2	49.25°	238,70°	45.08°	53,58°	32°42'10.60"N	32°42'10,60"N 117°10'43,90"W
ſ	59.83°	249,28°	.00*85	.05°99	32°42'48.60"N	32°42'48.60"N 117°11'22.50"W
¥	°59*69	259,10°	51,08°	.85°65	32°42'41.20"N	32°42'41.20"N 117°11'12.10"W

BL = SD 72 to SD 71 Both control points used Columbia Center Flagpole as a backsight.

	<u>Latitude</u> <u>Longitude</u>	32°40'55,40"N 117°08'30.00"W	32°40'51.10"N 117°08'22.50"W	32°40'46,70"N 117°08'15,30"W	32°40'42,00"N 117°08'07.90"W
SD 71	Angle to BL	110.50°	119.00	125.73°	131.45°
	Angle to Backsight	80.82°	89.32°	°50°96	101.77°
50 72	Angle to BL	305,58°	311.42°	316.02°	319,97°
	Angle to Backsight	93,33°	99,17°	103,77°	107,720
	Buoy	FM-48	FM-49	FM-50	F. F.

# ANNEX C

PRELIMINARY MESSAGE REPORT

PCUTTILE

R 2416337 AUG 84

FM CHESMAVFACENGCUM MASHINGION UC

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COMCEPAC PEAKL HAROUR HI ILFU CEMMANEALENGEDM ALEXAMURIA VA WESTNAVEALENGEOM SAN BRUNU CA UC1 190

UNCLAS // .114407//

SUBJ: FLEFT MOURING INSPECTION

- I. A CHESDIVIULT TWO UNDERNATER INSPECTION OF THE FLEET MOURINGS AT PMC SAN WILGO WAS COMPUCIED DURING THE PERIOD OF 23-28 JULY 1984. THE PULLUNIAU IS A PRELIMINARY REPURT OF THE RESULTS AS PILATED IN A AMUNCON BETHEEN MESSES. J. DEUCHARS, PHC SAN DIEGO, AND J. THUHNTO , CHESUTY, ON 17 AUG 1984.
- F. MUSHING CM-L IS IN POUR CUMDITION AND SHOULD BE OVERHAULED IF HE MUCH IS TO REMAIN IN FLEET USE. MCGRING DM-5 IS IN PURK CON ITT " HE CALSE OF A MORN MACH JOINING LINK ON THE HOLDING LEG. THIS LINK SHOULD BE PEPLACED ASAP.
- 3. THE FULLOWING MUNRINGS SHOULD BE DEWNGRADED RECAUSE OF CHAIN .^k:
  - A. FM-40 AND FM-49 TO A CLASS C:
  - o. P-1 TO A CLASS D:

THE FULL OWING MUNHINGS ARE IN FAIR CONDITION, BUT ARE SATISFACTURY FOR THEIR REPORTED USE:

- 4. L'-3 IS SAI FOR CLASS L; b. 1-1 AKU T-2 AFL SAT FOR CLASS E.
- NUMERINGS UM-4, -6, -9, AND -11, FM-19, -20, -50. AND -51, J, A A U P-2 ARC IN GUDD CONDITION. THE MED MOURINGS FOR THE USS WI'T AND THE HAS MCKEE ARE ALSO IN GUID CONDITION. MOUFVER, OF CHAIN OF THE MARKER BUDYS FOR THE USS MCKEE SHOULD BE REPLACE . 41 .
- MUCHING DM-6 IS IN GOUD CONVILION ACCURVING TO CHAIR MEASURFMENTS. HOWEVER, THE BURY IS LISTING AND THE CAUSE OF THE

WENT CHESNAVFACENCOUM WASHINGTON DC(7) ... URIG

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LIST SHOULD BE LAVESTIGATED.

7. PEPUP) OF THE FINAL EVALUATION WILL FULLOW. PCC AT THIS COMMAND TO C. PENNINGION AT (202) 453-4608 OF AZV 200-6008.

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INSPECTION PLAN.

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